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E. S. GAILLARD, M. D. AND D. L. GAILLARD, M. D.,
EDITORS AND PROPRIETORS.

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ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—*Observations on Yellow Fever at Bartlett, Tenn.* By JOHN F. COCHRAN, M. D.

The history of yellow fever, in this country, fails to afford a parallel to the epidemic of 1878 in the number of places visited. Heretofore a feeling of security against it had prevailed in the small towns along the different thoroughfares leading from Memphis. The experience of 1867 and 1873 seemed to warrant the feeling. During the epidemics of these years, especially of 1873, almost every railroad station and town within a radius of many miles had imported cases, yet residents did not take the fever. Nor was intercourse at all restricted by quarantine regulations. The visitations therefore of this year were unlooked for, and because supposed to be out of conformity to the known laws of the disease, took small places at a disadvantage. The first cases were generally mistaken for something else, and the error not found out till the fever had a good hold. Often when a practitioner had the skill to make a correct diagnosis, and the courage to maintain it, he was assailed by his professional brethren as a disciple who did not know "bilious fever," and by the people as a malefactor against society at large. Thus, from indecision, many families fell victims to the fever, who would otherwise have found safety in flight. Such errors and bitter recriminations are not creditable, on the one hand, to a profession so wont to boast of its honor and science; nor, on the other, to a constituency which, upon occasion, is patronizing and laudatory.

Yellow fever was declared epidemic in Memphis about the 15th of August. Small towns and country neighborhoods near the city were immediately filled with refugees. Few if any cases of fever occurred among the first influx of people. But many persons who had left their all there persisted in visiting the city in the daytime and returning to their places of refuge at night. There was generally no restriction laid on such passing. The number of refugees was increased daily, for several weeks, by persons who had at first determined to remain at home. Meantime the regular delivery of the mails and the operations of commerce went on without interruption. But for such agencies as these the fever would not have been so generally disseminated to the small towns. However, late in August fever began to appear at many different points.

Bartlett is a scattering town of about three hundred inhabitants, situated eleven (11) miles northeast of Memphis, on the Louisville and Nashville Railroad. The population had been increased to four or five hundred by refugees. The first case of fever occurring here fell under my professional care on the 29th of August. The patient was a refugee, a lady, fifteen days out of Memphis. The announcement of the fact created no uneasiness, except in the boarding-house where it occurred, which was promptly vacated. It was industriously circulated that the lady did not have even a clearly-developed attack of remittent fever, and so she did not, as the sequel proved. On the 10th of September, twelve days after the appearance of the first case, a young man, a resident, who took his meals at the house in which the sick lady boarded, was attacked. On the 13th, 15th, and 16th, other cases occurred in houses adjacent to the boarding-house. All these were under my professional care. About this time another refugee, perhaps one week out of Memphis, was attacked in another part of town. A few days later (I cannot give the dates, for I did not have the care of these cases), two more members of the same household took the fever. A general stampede of residents and refugees now ensued. Perhaps twenty-five (25) persons, mostly negroes, remained. Not a case occurred among those who fled. One family returned after a few days absence and was stricken. Of two families,

which remained at home, one escaped. Most of the negroes who remained, also escaped. Of three (3) physicians, none had it. Our citizens, who went only a mile out, escaped equally with those who went a greater distance. The wisdom of evacuating an infected place promptly was proven here, while the folly of remaining is equally illustrated by the fate of our neighboring towns—Raleigh and Germantown, of about equal population. Influential citizens at these points protested that they did not have yellow fever, which kept many families at home. The aggregate deaths at the two places are near one hundred, whilst we lost only seven (7) citizens proper. The following statistics of the fever at Germantown were furnished me by a gentleman who remained there nursing the sick; they are of the whites only. Out of seventy-five persons remaining, sixty-five had the fever, of whom forty-six died.

It is not creditable to the medical profession that the question as to how yellow fever is propagated remains so undefined. It would seem that its methods might be successfully studied when it appears in small communities; but insurmountable difficulties are met upon the threshold of investigation. It is to be hoped that the vast amount of facts being collected by the Yellow Fever Commission will enable some analytical mind to deduct more definite and satisfactory conclusions than have yet been reached on this vital subject. I have no theories, my only aim being to contribute what facts I may, hoping they may be of service to those trying to construct a better theory of yellow fever.

Reverting to the history of the appearance and spread of yellow fever, the presumption is that the lady first attacked contracted the disease in Memphis; but this proposition is open to doubt. At the time she left the city the epidemic influence had certainly not grown strong; indeed, no cases had then occurred in that part of the city where she resided. She had been here fifteen days when attacked. Her husband may have carried the disease to her in fomites; he had visited the city frequently up to the time of her seizure, bringing back bundles of various kinds. In addition to this, the boarding-house where she lived is situated close to the depôt; freight trains loaded

recently in Memphis, and a boarding-train on which the shop-hands slept, stood nearly over night frequently. The group of cases, three or four in number, which followed hers, all lived near the depôt also, as well as near the boarding-house where she was sick; they had frequented the post-office and depôt daily at train-time; in a word, had been in daily contact with persons and things just out from Memphis. But of the persons most exposed to this source of infection, viz., the station agent, postmaster, merchants, and their employees, about fifteen in number, not one had the fever, except one merchant's clerk. He, however, had been least exposed to this source of infection of all his class, because his employer was not dealing in goods bought in Memphis since the fever was known to be there. This young man, on the other hand, was the only one of his class, except one or two, who had been about the boarding-house. The difficulty, then, of tracing this first group of cases to their origin is apparent. Of the second group of cases occuring in another part of town, about the same may be said. The person first attacked there had been going to Memphis and returning at night. It is pretty certain that he contracted the disease in Memphis. His sister-in-law and little daughter, who were living in the same house, had been exposed to no other known source of getting the fever except from his own person, either by contagion or fomites. They took the fever, one before and the other just after his death, which occurred about the fifth or sixth day of his sickness.

A contagionist would think his doctrine sustained by these facts, but I have others to offer presently of a very different bearing.

I now present two instances in which it is quite probable the fever was contracted from infected clothing, though not certain. A negro woman living near this place did some washing for the lady sick at the boarding-house. I am told by Dr. Blackwell, her physician, that she died of unmistakable yellow fever a short time afterwards. He, however, thinks she may have gotten it otherwise. One of the earliest cases, if not the first, occurring in the person of a citizen of Raleigh, was that of a negro woman who washed extensively for sick refugees. Her

child took it about the same time; they both died with suppressed urine. There was much disagreement among the physicians at the time as to diagnosis, but in the light of subsequent events the cases were conceded by all to have been genuine yellow fever.

The occurrence of occasional cases at farm-houses in my practice, outside of the so-called infected localities, has enabled me to make the following observations bearing on the vexed question of contagion and infection: Captain La Fevre, residing in a retired place two miles from Bartlett, took the fever, at his home, on the 9th of September. He had been in Memphis on the 13th of August, but in the meantime he had been in Bartlett and Raleigh frequently, at both of which places cases had then occurred; he had visited one house at Raleigh in which a person had died. He died himself on the fifth day of a very malignant attack. His family and servants, consisting of five persons, had been in constant attendance upon him; none of them, however, took the fever.

Mr. Connor, a foundryman, twenty-one days out from Memphis, had a severe attack and recovered at the house of Mrs. Davis, four miles from Bartlett. There were eighteen or twenty persons in the family, none of whom fled. There was no other case at that house or near it.

Mr. Sterling, a railroad clerk, when out of the city only a few days, was stricken at the house of a friend four miles from this place; most of the family, ten or twelve in number, took their turns in nursing him. One other case occurred in this family that had not been about the sick man, but had been to Bartlett.

Mr. King, who contracted the disease probably in a store and post-office, died of a most malignant attack four miles in the country, surrounded by a family of seven or eight persons, who did not avoid his room, for the reason that they did not know the nature of his disease, till the day he died. None of these were sick. To recapitulate: These four men had been exposed in infected towns; they were attacked with yellow fever at retired farm-houses, and passed through all its stages, surrounded by an aggregate of about forty-five well persons, all

susceptible to yellow fever, yet not one of the number was sick from it. I am informed by other physicians that their observations are similar to my own on this point.

A mistaken idea as to the extent to which yellow fever prevailed in country districts seems to be common. In Shelby county the fever was confined to the thoroughfares and villages which were in daily intercourse with Memphis. Whenever a case occurred in a retired neighborhood it could be traced definitely to some infected town. Excluding towns and the immediate suburbs of Memphis, the health of Shelby county has been better than for years. Malarial fevers have been comparatively mild and infrequent.

Some facts worthy of mention, as bearing on quarantine, are, that the stations on the Memphis and Paducah, and Memphis and Little Rock railroads escaped the fever, except the first two of the former and the first of the latter, which were accessible to Memphis by foot and ferry. These roads suspended operations early in the epidemic, cutting off communication with the city almost entirely.

I have notes of eight cases treated from commencement of attack, from which I extract the following statistics and observations. All were white: Six males between the ages of twenty-one and forty; one male ten years, and one female twenty-five years. A hæmorrhagic condition was evinced in all save one. Hæmorrhages occurred from the nose, gums, lips, ears, kidneys, bowels, and lungs. Black vomit occurred in two, and suppression of urine in two. Five died and three recovered. Two had had the fever in former epidemics, both of whom died. One case had, on the third day, an alarming hæmorrhage from nose and lungs; he was subject to hæmoptysis; he had also oozing of blood from the ears. He had at the same time that peculiar "white vomit," specked with dark spots, generally observed to precede black vomit. His condition seemed desperate, although his temperature had not gone above 102½°; but the loss of blood seemed to be salutary by relieving a phlogose condition, and he convalesced steadily from that time.

One case, the diagnosis of which remains in some doubt, presented some anomalous features. If yellow fever, it was of

an intermittent form. The patient was a little boy of about ten years of age. He had regularly, for four days, two distinct exacerbations of fever, each twenty-four hours, followed by intermissions; the thermometer registering on the one hand 98.5°, and on the other 103° and 104°, and once 105°. In the exacerbation of fever dissolution seemed imminent, but in the intermission he was playful, and made no complaint, except that he was starving. During the fever there was profuse hæmaturia, but the urine would clear up in the intermission. I witnessed, in this case, the strange phenomenon of the temperature mounting up from its normal standard to 105° within an hour, and receding again to the starting point within four hours. These observations were carefully made. The pulse varied with the condition of the temperature in proper proportion. Quinine given heroically and persistently by the stomach, rectum, and inunction, failed to interrupt the paroxysms, and was abandoned, after a fair trial, together with all other medication. The paroxysms became gradually less marked, and ceased after the fourth day. He had, subsequently, repeated epistaxis. He convalesced sufficiently in ten days to be removed to Louisville, Ky., whither I accompanied him. He relapsed there, fourteen days after the original seizure, and passed again through the same train of symptoms, less marked, however. He convalesced again, and is now (November 14th) at home, in tolerably fair health.

Dr. Sheftall, of Savannah, Ga., a gentleman of extended experience in yellow fever, diagnosed this case yellow fever. The peculiar odor of yellow fever was present in his room. There was another case of yellow fever in the house at the time. Dr. Blackwell, who saw the case described, was of opinion that it was hæmorrhagic malarial fever. I shall advance some ideas further on, which, if true, it will matter not which it was called.

Another case presented some interesting features—that of Mrs. V. She was in the sixth month of pregnancy. On the second day of fever uterine pains set in, but were arrested by morphia hypodermically. They returned on the next day, and could not be controlled; after a labor of several hours, the fœtus was expelled, her temperature being 103½°. After this

occurrence, I expected to lose the patient speedily from loss of blood; but, strange to say, there was no unusual hæmorrhage. She convalesced satisfactorily, and was discharged at the end of two weeks as out of danger. But she relapsed on the same day without having committed any known imprudence, and passed through the stages of yellow fever a second time. Her temperature reached 106½°. Black vomit occurred on the sixth day, and she died on the seventh. There was no uterine hæmorrhage. Query: Was not this, adopting the question of the fever commission, a genuine relapse, using the term in its strict medical sense?

I present the clinical history and treatment of one case. Captain La Fevre, the subject of this report, was a robust farmer, about forty years of age, living two miles in the country. How he got the fever has been already detailed. He had suffered twice during the summer from intermittent fever. On September 9th, 7 A. M., he had a slight chill, or rather chilly sensations, followed by violent febrile reäction, with unusual pain in the head (frontal) and backache, sore throat, irritability of the bladder, and difficulty in emptying it. He spent a very disagreeable night. Next day, at 1 P. M., the fever having failed to pass off, as usual, I was called to see him. He had already taken, at his own option, "McLean's pills" and eighteen grains of quinine. Pulse 100, temperature 104½°, skin pungently hot, and had not been moist at all. Urine sufficient, but passed with straining and pain. Frontal headache, pain in lumbar region, and aching of limbs and shoulders. The restlessness of the patient was striking; he could not be kept still, nor covered; had not slept a moment. Countenance flushed; eyes injected; brilliant and intolerant of light; tongue had a little white coating, with red edges, and plain indentations of the teeth; thirst decided; stomach quiet; bowels had acted scantily, and there was slight cinchonism. I suspected yellow fever, and, contrary to my better judgment, gave grs. x calomel and grs. xx quinine. I requested a consultation, and Dr. Duncan, of Raleigh, saw him with me at 5 P. M. There was no material change in his condition, except that cinchonism was now profound. Diagnosis, unqestionable yellow fever. Mustard foot-

baths, sage tea, and frequent sponging of the surface with tepid water and whisky, were ordered with a view to their quieting and sudorific effect.

September 11*th*, 11:30 *A. M.*—Pulse 90, temperature 102½°. Has spent another restless night, without any sleep or perspiration. Countenance bears an expression of anxiety; tongue has thick white coating in the centre; papillæ enlarged and red; edges quite red, presenting very much the appearance of the tongue of scarlet fever. Mouth dry; thirst great; gums ragged and inclined to bleed; lips scarlet; nasal passages dry; urine scanty, of an orange color, and evidently laden with the epithelial coating of the bladder. Calomel has acted freely; dejecta black and watery. Stomach quiet; very restless. Sponging and baths, which had a momentarily quieting effect, continued. Watermelon-seed tea to be given freely.

5 *P. M.*—Pulse 90, temperature 103½°. Condition about the same, and treatment continued.

September 12*th*, 8 *A. M.*—Pulse 84, temperature 102°. Another restless night. Urine almost suspended, without deposit, except a little bright red material, which drifted into lines on the bottom of the vessel when decanted. The patient now presented a degree of mental and bodily excitement I had not witnessed before; his whole frame was in a tremor; his mind was clear and painfully alive to impressions from what he saw or heard; he was bleeding from the nose, gums, and lips; dejections from his bowels black, watery, and frequent; stomach uneasy, but no vomiting; thirst intense; he said he was "burning up inside;" respiration sighing and irregular. Acetate potass. was added to the watermelon-seed tea, and turpentine stupes were used to back and abdomen.

3:30 *P. M.*—Pulse 76, temperature 101½°. Champagne was added to the morning directions. No encouragement from the kidneys; patient more quiet.

September 13*th*, 10:30 *A. M.*—Pulse 84, temperature 101°; kidneys secreting a little better; about three ounces passed during the night. Has slept in snatches; vomited several times mucus and water containing dark flocculi. Nothing allowed now by stomach but a little water and ice.

4:30 *P. M.*—Pulse 84, temperature 100°. He rested quietly two hours during the morning. Passed about one ounce of urine. Stomach would retain nothing; had vomited a quantity of blood. Delirium had set in; he was unmanageable, except by force. The extremities were getting cold. He died early next morning.

Most of the symptoms peculiar to yellow fever were prominently marked in this case; viz., the continued fever, the peculiar appearances of the tongue and eyes, the flushed face, the frontal pain and backache, the bladder and kidney trouble, the orange-colored urine, the non-correspondence between the pulse and temperature, and the hæmorrhagic tendency. If the urine had been tested, it would no doubt have yielded albumen. If to all these things the black vomit had been added, the picture would be complete. There was no positive yellowness of the skin till after death, but the eyes were yellow.

On the all-important subject of treatment much will be written. The brilliant results of this or that plan, often aggressive, and sometimes spoliative, will be fulminated in medical literature, as they have been latterly in the public press.

I would not detract from the heroic achievements of my professional brethren who have recently furnished so many conspicuous examples of self-immolation for humanity's sake, but I do enter a protest against the blind empiricism which has obtained with so many good physicians, and against the servile adoption of this or that man's hobby, who, "in a large practice, has not lost any patient, except a few some other physician or the nurse had tampered with." Away with such weakness, and let the true physician, accepting the situation in the simplicity of its truth, stand meekly at the helm and try only to guide the frail human bark safely through a feverish storm to which he can not say, "peace, be still." It is not creditable to the medical profession that the humblest of its members should be plodding to-day through that therapeutical wilderness, in regard to yellow fever, which our forefathers passed, trying to find a specific treatment for other specific, self-limited diseases. The teaching of our schools and modern books is pretty sound on the therapeutics of yellow fever, and if any candid observer be skeptical,

a little experience at the bedside ought to convince him that conservatism and expectancy is the only safe course in the management of yellow fever. The laity have been observing these matters, and it is getting to be a part of their creed, that a doctor armed with calomel, quinine, chloral, and champagne, is a dangerous thing to have around in yellow fever. Should the disease continue to recur here, we will ultimately reach that happy state of public opinion in regard to its proper management now for many years prevalent at New Orleans, viz., that good nursing with little medicine, and that little of the simplest kind, affords the surest and safest conduct to recovery.

Facts observed in this epidemic have unsettled a good many popular notions about yellow fever. Its appearance at Hickman, Ky., Brownsville, Tenn., Florence, Ala., and Holly Springs, Miss., show that certain conditions of filth and locality, heretofore believed to be necessary to its propagation, are not essential.

The common belief that negroes were almost exempt has been disproven. Yet in this epidemic they were, in some degree, less liable to it, and it was not so fatal to them.

If there was no other evidence on record justifying quarantine as a means of prevention, the occurrences of this year are sufficient in themselves. The quarantines of Humboldt and Milan, on this road, were as strictly enforced as possible, except that trains were allowed to pass through. They had only a very few cases at the close of the epidemic. Brownsville, situated near them, with much better sanitary surroundings, but with intercourse uninterrupted, suffered severely. Corinth, Miss., an unhealthy place, which was under rigid quarantine against all infected points, also escaped. The escape of the towns on the Little Rock and Paducah railroads, already related, is another confirmation. The fact that many little places which were quarantined had the fever, is no argument against the system. Upon investigation it will be found that their exclusion of persons and things was not rigid.

Congress should make a national quarantine law, by the terms of which our coasts should be rigidly protected against West Indian and South American ports, and by which, if the

fever should appear again on our shores, cities and towns may protect themselves against its introduction. The quarantine regulations enforced this year, in many places, were without the sanction of law, and while they were not radical enough, the rights of individuals and corporations were sadly infringed upon. To prevent the invasion of yellow fever is a veritable warfare, requiring skillful commanders, in whom should be lodged great arbitrary power. Nothing short of the stringency of martial law will afford protection. It is to be feared, however, that the same short-sighted and niggardly policy which has heretofore characterized sanitary legislation in this country will still prevail when Congress comes to deal with this question.

Any account of this epidemic will be imperfect without a description of the efforts which were made to prevent its spread by disinfection and personal prophylaxis. Carbolic acid and lime were the principal agents relied upon for the former purpose. The streets of every village were white with lime, and the atmosphere was reeking with the odor of carbolic acid. The former was sprinkled profusely about stores, depôts, railroad cars, and private residences. Some placed reliance in fumigation and concussion from the explosion of gunpowder. Sulphur and copperas were sprinkled around generally. Measures of personal prophylaxis had a wide range. I mention sulphur, charcoal, camphor, assafœtida, white mustard seed, quinine, gin, and alcoholics generally. You could frequently tell the hobby of those you met by the sense of smell. Of all these, the gin drinker had the greatest faith and consolation in his theory. It is an unfortunate fact that, so far as I have observed and been informed, there were more conspicuous examples of escape among hard drinkers than is comfortable to the temperance cause. While the profession generally placed no faith in these efforts at prevention, they were a source of great comfort and satisfaction to all classes. As to their inefficiency there can be little doubt. One physician announced in the public press that he had discovered both a cure and a preventive in bicarbonate potass. This fallacy became very prevalent in the country, and hundreds of pounds of that drug were consumed. He gravely announced that at the first departure of the temperature from the

normal standard, the free use of this drug would inevitably reduce it, and thereby render the development of yellow fever impossible. Therefore, all a person needed to escape the fever was a thermometer and a goodly supply of the divine remedy.

If my own observation and experience justify faith in anything as a preventive, it is sulphate of quinia. I took it myself, as has been my habit for several years, during the sickly season, when there was an unusual tax upon me physically. I recommended it to my friends, who wanted to be doing something, as the only thing in which I had the least confidence. I know of no one who kept gently under its influence having the fever. On the other hand, I know several persons who were suffering, or had been very recently, from malarial trouble at the time they were attacked. In this connection I desire to call attention to the fact that many persons, who kept on their feet throughout the epidemic, gave unmistakable evidence of the effects of the poison in their systems. The expressions of it were to be found in the condition of the tongue and urine. From examinations and inquiries made at the time, I found a red and a dry tongue, and yellowish, scanty urine very common, attended by head and backache, a feverish condition and insomnia. I suffered thus myself, as did the other physicians of the place.

The books generally teach that convalescence from yellow fever is rapid and complete; such, however, has not been the case this year. Relapses have been common and fatal, and convalescence tedious and beset with danger. Many cases have assumed the form and appearance of typho-malarial fever, and glandular swellings and abscesses have occurred.

Before closing this article, I desire to call attention to the close resemblance between the so-called hæmorrhagic malarial fever of this section and yellow fever, a relationship so close that Robert Lawson, Inspector-General of British Hospitals, has recently taken the position that they are identical. Having now observed both diseases, I am greatly impressed with their resemblance. An early and serious implication of the liver and kidneys is a feature common to both, resulting in an active exudation into the parenchyma of these organs, followed on the

one hand by a diffusion of bile throughout the system, and on the other by albuminous urine, desquamation of the tubes, and finally suppression. The so-called malarial disease is generally characterized, as the other is, by a continued form of fever, lasting three or four days. The same hæmorrhagic tendency is evinced in both. Black vomit and black watery alvine discharges are common to both. The condition of the stomach in the two seems to be identical. I believe the vomiting of bile in the first stages is the rule in the malarial disease, yet I have seen this wanting; and on the other hand have seen it occur in yellow fever. The appearance and behavior of the patients suffering from these diseases are very similar. The greatest difference appears to be in the greater prominence of hæmaturia as a symptom in the so-called malarial disease, although, like yellow fever, it has a hæmorrhagic range cöextensive with the mucous membrane. There is, however, another difference which is of greater significance, viz., that the hæmorrhagic malarial fever which has fallen under my observation has seemed to result as a consequence of one or more seasons of intractable or neglected chills and fevers. These diseases occur at the same season of the year. The same plan of treatment, viz., the expectant one, seems best suited to each. There is as much difference of opinion in the minds of the profession about the appropriateness of calomel and quinine to the one as to the other. The so-called hæmorrhagic malarial fever has no written history in this country prior to the war between the States, and has none to-day, save in periodical medical literature. Old practitioners never saw it until the last decade. Is it, then, sporadic yellow fever? Cases of sporadic yellow fever are said to be common in the tropics, and even on our southern coast, without the development of an epidemic influence. Such is admitted to be true of cholera everywhere. Should this question be found to merit the serious attention of the profession and find affirmative believers, it will unsettle the doctrine of the (necessarily) foreign origin of yellow fever, and cause a loss of confidence in the efficacy of quarantine.

Since the foregoing was prepared, I have treated a case which occurred on the 10th of November, two weeks after all refugees

had returned. It presents some points of interest. A week before he was attacked, but after refugees had been invited to return, he went to Memphis to see a dentist, and entered what was formerly a dentist's office, but found inside a man sick of yellow fever, he supposed; he retired instantly, and thought no more about it until he was taken sick. The attack was a mild one in all respects, except that the urine was heavily laden with albumen, and became more and more scanty, till on the third day, after an interval of eighteen hours, in which the bladder was not emptied at all, he passed only an ounce. It was gradually reëstablished from that time, and convalescence ensued. The fever was only thirty-six hours in duration, the temperature reaching 104°. The treatment was simple, consisting of a dose of castor oil at the commencement and sponging of the surface during the fever, and turpentine stupes, and watermelon-seed tea after urinary trouble set in.

Up to this time (November 24th) no other case has occurred here. During the past week, however, cases have occurred at Brownesville, Collierville, and Germantown, and the mortuary report at Memphis for the week ending November 23d shows ten deaths from yellow fever. Thus it lingers beyond expectation. It is fair to conclude that, in view of the milder form the disease now assumes, there have been at least forty new cases at the latter place during the past ten days.

ART. II.—*An Inquiry into the Cause of Diphtheria.* By JOHN FIELD, M. D., Sheridan, Oregon.

Diphtheria.—This much to be feared scourge made its appearance in this particular locality of the great Williamette Valley about two years ago. This disease has been characterized not only in the Williamette Valley, but all over the Pacific coast by results appalling to contemplate.

Diphtheria has not, as a rule, prevailed continuously in one locality (at least not so in this), but from time to time during the two years named. It broke out as an epidemic first in one

community and then in another. Always, however, characterized by the same malignant and stubborn phase that had distinguished the former visitations. On every occasion of the outbreak of the epidemic the excitement among the greater number of people was as high as if their respective neighborhoods had been visited by small-pox.

From the time diphtheria made its first appearance in this locality till the present, I have had more or less experience in its treatment; and I am painfully certain that I am still very unsuccessful in the treatment of the malady. There is no fixed time in which the disease makes its appearance in this country; I have seen it here alike in all four of the seasons. Neither does locality appear to exert any influence upon the outbreaks, duration, or fatality of the disease; children living on the hills, in the valley, and upon the water courses are alike subject to the same influences and results, so far as diphtheria is concerned.

At various times, since diphtheria has prevailed in this country, there have been articles published in the general newspapers on the subject of diphtheria, and treatment given which were vouched for by those offering them as "sure cures;" and in many cases these recipes were filed away and passed from neighbor to neighbor, who, in many cases, would rely on the supposed curative powers of these recipes in the treatment of their children, not calling their family physician until it was too late for him to do more than to give the little sufferer, in his dying hour, the benefit of such remedies as, in the opinion of the practitioner, would give quietude and at least a partial immunity from suffering.

A few cases have been reported through the medical journals, and treatment given which, in the hands of those reporting, was successful in combating the disease. But in this locality in general, and in my own practice in particular, these highly recommended remedies proved to have but little, if any merit. In consequence of the uncertain as well as the conflicting ideas which were suggested by the many published recipes and "sure cures," and the deep interest I feel in the solution of the question, involving the primary cause of this dreadful disease, I am

prompted to write this article. I am aware that it will present the appearance of a thing without beginning or ending, as it will neither give an authentic account of a case of diphtheria from the beginning to the close, together with the appropriate treatment, nor will there be advocated any line of treatment for the cure of the disease, drawn from the general principles of pathology.

But the object which I have in view is to direct the attention of the profession generally, and especially those who are happily surrounded by circumstances, and possessed with suitable appliances which render them much better qualified than I feel myself to be, to investigate the subject and the first exciting cause, and to determine the effect arising from that cause.

I have, from observation and study, arrived at conclusions, and from these conclusions I draw what, in my judgment, is a legitimate and rational course of treatment. But I am still at sea, for I am uncertain that my theory is correct; but I respectfully ask the reader to go to the end with me, and then if any one can give a better solution of the fearful scourge or reflect any light upon the theory I present in the body of this article, as an act of mercy, if no other, he owes it to society to give the physicians in the great Northwest the benefit of his experience and knowledge.

Diphtheria is marked by one especial distinguishing feature; that is the formation upon the mucous surfaces of a pseudo-membrane. While I regard it of the first importance to determine the origin of the membrane and to understand the forces which are employed in its production, it is, in my judgment, of secondary importance after it has been produced. Notwithstanding that the formation of diphtheritic membrane is frequently the cause of death, or, in other words, may hasten the fatal hour, it is only a sign or symptom of a previously existing specific disease. By its presence the practitioner is enabled to make an infallible diagnosis, and on many occasions, when taking into account the rapid accumulation and the wide-spread development of this characteristic pseudo-membrane, is enabled, or more correctly speaking, forced to make an unfavorable prognosis.

Cases not infrequently occur in which the physician, even when he is first called, meets prominent symptoms in his patient which are of themselves indicative of the development of the diphtheritic membrane, generally over the entire mucous surfaces. Then he knows that if ever the time existed in that particular case when his professional services could have been rendered with any hope of a successful issue, that it is now too late. Especially is this true when he is confronted with the peculiar symptoms arising from the development of the membrane in the trachea and air tubes. On other occasions these distressing features will develop themselves while the case is undergoing treatment. So far as the final result is concerned, it is immaterial at what period in the march of the disease the foregoing phenomena are manifested; death is alike sure.

And while this pseudo-membrane is the distinguishing feature of diphtheria, it is also the point upon which professional men very widely differ. One physician, even if he does not boldly assert the doctrine that the membrane is the disease, and that the removal of that product is in fact the removal of the disease, will most positively say so by his treatment, which is the combination of various remedies designed for the removal of the membrane; and these remedies are applied to the throat, both internally and externally, with untiring persistency. This plan of treatment is not infrequently painful to witness, much less to suffer, for the reason that the poor little sufferer is forced to submit to an operation commonly known as "swabbing," a means by which the medicine is applied to the diseased throat with a swab, made by wrapping a rag around a stick.

To me, who, having stood by the bedside and supported two of my own children in their dying moments, this "swabbing" is entirely too revolting, at least while I hold the opinion which I now do touching the origin, development, and pathology of the disease.

There are other physicians who regard the membrane, after it has been developed, of but secondary importance, and each one prescribes such remedies and means as, in his judgment, meets the demands of the case, in accordance and in conformity with a preärranged theory which he may have based upon the surrounding circumstances, facts, and phenomena observed.

Taking into consideration the fearful ravages which this disease has made and is still making into the ranks of the little ones in our county, and the distracting ideas advanced as to its cause and cure, it is highly important, if such happy results may reasonably be hoped for, that the present impenetrable darkness which envelops the first exciting cause of diphtheria be removed, and that when we are called to treat the disease, we may know to what source to refer all the symptoms which are so embodied in a case of diphtheria.

The point to be determined is, what is the first specific exciting cause of the disease—diphtheria? The importance of settling this question upon a tenable basis will fully appear further on.

Diphtheria, in my opinion, owes its origin to a specific germ which enters the circulation; whether by inhalation or ingestion I know not, neither is it material so far as the ultimate facts are concerned that it should be determined by which of these avenues the blood receives the first specific germ impression.

Then commences within the circulation a process of germination; the length of time consumed by this process of germination is not known; but I am sure that the peculiar diphtheritic germ, after entering the blood, from observations I have made, occupies from five to seven days in the process of incubation, which time also is covered in part at least by the premonitory symptoms of the disease. The result of the specific germ in the blood is the development of the process of germination, which, of its own inherent power, develops the peculiar elements of which the diphtheritic membrane is composed; and the blood, after becoming loaded with the membranous elements, begins to pour the peculiar pseudo-membrane out upon the mucous surfaces. Therefore, I regard the deposit of the membrane as an effort upon the part of nature to unload the circulation of its superabundant accumulation of the membranous element.

The process of membranous development, and the immediate generation within the circulating medium of membranous elements which serves the purpose of developing the membrane, is a continuous source of supply tending to thicken the already existing membrane, or reproducing it in localities where it has been detached. I refer now to cases of a severe type,

which, as a rule, results fatally. I also wish it understood that the foregoing phenomena are engrafted upon a preceding pathological condition, in the main distinguished by the usual symptoms that serve to mark the existence of an inflammatory action going on in the mucous membrane and the tissue immediately underlying it.

It is extremely difficult to draw the line of demarcation; it is frequently so, at least between the preceding inflammation of the mucous membrane and the deposit of the pseudo-membrane upon the same surface; for in the great majority of cases the membrane is already formed in the throat or nose, as the case may be, before the physician is called; the family thinking the child has only taken a cold, accompanied with a little fever, from the effects of which it may soon recover, by the aid of such remedies as they are in the habit of using for such cases. But finding the child still sick and not improving, the doctor is called, who makes the astounding disclosure that the little patient is attacked by diphtheria. On other occasions the child presents unmistakable signs of the dreadful disease from the first.

Now, in order that efforts in the treatment of this disease may be more promising, there must, in my judgment, be a clear understanding arrived at in reference to the specific germ, and when its true nature shall have been fully determined, the physician may possess within the range of his materia medica some remedy that he can confidently prescribe, to the end that the germs may be destroyed and the membranous elements, by the very means of the germ destruction, will cease to exist.

Notwithstanding that the clearing of this particular point may not render us more able to successfully treat diphtheria after it has been developed, it will surely serve the purpose of giving us a clean insight into the true pathological cause of the disease, which is always a knowledge to be desired. But it will do more, as above intimated. It will enable the physician to devise ways and means, with a clear understanding of what he is doing; whether these means are medicinal or hygienic or both, which will prevent the disease from spreading. If we possessed remedies which could be relied upon for the accomplishment of

this purpose, when diphtheria broke out in a house, the entire family, or even the surrounding families, could be placed under treatment with a reasonable prospect of staying its ravages.

I have protracted this article much further than I at first intended, but I urge the importance of the subject as a justification.

Indulgent reader, permit me to urge upon your attention the ideas suggested in this paper, and to solicit your aid in arriving at a clear understanding of the first exciting cause of diphtheria. Again, I repeat, when that point is gained, look for better results in the treatment of the disease.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—*A Study of the Digestive Disorders of Infancy.* By JOHN M. KEATING, M. D., Lecturer on Diseases of Children, University of Pennsylvania, etc.

I think that most of my readers whose practice has brought them much in contact with children have noticed that of all the hereditary predispositions there are none that show themselves earlier than those terminating in the varieties of dyspepsia, whether from imperfect assimilation or imperfect secretion. I feel convinced that many cases of the various digestive disorders of children, so often said to depend upon improper food, are, in reality, due to imperfect digestive capacity, which renders food, however inert, irritant by decomposition or fermentation. Who has not noticed the pale, half-nourished infants of literary dyspeptics, with their frequent indigestions, though fed, with a zealous care, on the most nourishing and simplest of food. They are martyrs to flatulence and acid dyspepsia, exhibiting, from the first hour of their birth, peculiarities acquired by their parents and transmitted to them.

I go still farther, by attributing many of the diseases that show themselves later in life, particularly those of the tubercular

and scrofulous diathesis, to mal-assimilation in infancy, from hereditary or acquired disturbance in nutrition. I think this point deserves more than a passing notice. So much has been said upon the choice of food for infants, but so little stress is laid upon the preparation of those materials for the alimentary canal of the child that will insure the proper digestion and absorption of all the required varieties of food; in other words, so little has been said of the disturbance of secretion in childhood and how to correct it.

If we lay down the rule that all children are to be fed upon that food which, judged by experience, is easiest of digestion, we will invariably fall into the error of omitting some important element of diet, which, though destined by nature to nourish and strengthen, can not reach the tissues on account of some digestive deficiency.

This is easily understood if we take an example. Suppose an adult with phthisis is incapable of digesting fats. We do not on that account exclude at once all fatty food, but we use every means to aid him by supplying those elements that are essential to the digestion of oily food. If a child is unable to digest cow's milk, and we give condensed milk that is deprived of oil, etc., we simply avoid the difficulty by a sin of omission; the child will not suffer from a digestive disturbance, but will die of inanition. It would be like feeding a laboring man on dry toast and tea whose gastric powers were too weak to digest meat, but whose tissues demanded its support. But then, again, we might supply all the nourishment that nature and art teach us are necessary for the maintenance of health and growth, and if imperfect absorption, or none at all, takes place, and some of the elements pass off unchanged, or are fermented or decomposed, it would have been better had they been omitted altogether. From this we see that we are not alone to look to the food in remedying the disturbances of early childhood, but we are to see that each element to be used in nutrition is *supplied*, *digested* and *absorbed*. The reason, I believe, that we find in the market so many varieties of infants' food is the desire to avoid certain constituents of mothers' milk, which, though absolutely necessary for nutrition, are difficult of digestion; the almost invariably absent ingredient is the oil.

Let us for a moment study the condition of the secretion in early childhood. The glands of the mouth, in infancy, seem to have little to do in the digestive process. As far as we know, the function of the liver is one of the most important, aiding the absorption of oils, checking decomposition and fermentation, and increasing the peristaltic action of the intestines. The pancreatic juice emulsifies the oil, aids the digestion of milk curds, and it is in other ways important. The child in health can then easily digest all the constituents of its mother's milk, but disturb one of these secretions, and that constituent of milk upon which it acts will fail to be digested, and will act as an irritant.

The excessive delicacy of the nervous system in infancy will cause the slightest reflex disturbance in the digestive canal, whether the cause be teething, blood poisoning, improper food, or uncleanliness, each one acting in its own peculiar way, aided by the inherited or acquired weakness of the digestive system of the child. The excessive heat of summer, with the poisoned city air, acting upon the nerve centres, will send a reflex influence that will check the action of the intestinal glands, and arrest the activity of the liver. The saccharine food will develop acidity, the undissolved curds will remain as irritants or undergo decomposition, causing an increase in the secretion of mucus, part of which will ferment, and the rest will be made evident by its appearance in the stool. The passages will then assume a curdled, watery appearance, containing oil and mucus; they will be accompanied by pain, and voided continually. These stools are acid from the fermentation of the food and the mucus. So suddenly, indeed, has the arrest of secretion allowed the development of gases to take place in the stomach by fermentation, that enormous distention of this organ has caused a convulsion to be the only evidence of it. Relief in such cases has followed the introduction of a gum catheter into the stomach, resulting in the expulsion of gas. Reflex irritation seems to develop *two** distinct forms of infantile diarrhœa, the one preëminently dependent upon teething, and showing itself in general nervous irritability, sleeplessness, very acid eructa-

* The one usually described as entero-colitis; the other as cholera infantum.

tions and vomiting, frequently white or very light, yellow-colored stools, oftentimes containing mucus and sometimes assuming a constant or subacute type; the other more probably dependent upon high temperature and blood poisoning, having marked cerebral symptoms, with constant vomiting, little acidity, little flatulence, great pain, and frequent, thin, watery dark-green stools, containing mucus and blood; in fact, frequently being almost black in color, composed of serum and altered blood corpuscles. In midsummer both these varieties may be combined. In a large number of cases I have had the stools tested by litmus paper, and my report shows that though acid in the former variety, the reäction was alkaline in the latter. I believe the alkalinity to be dependent upon serum that exudes from the engorged capillaries, due to vaso-motor paralysis. An examination of the passages of children in health shows very slight alkalinity. Attributing then all the diarrhœa of children to three causes, namely, *improper feeding*, of which I shall not now speak, *reflex arrest of secretion* and *intestinal catarrh* (this latter may be the result of the reflex irritation, or it may be due to the presence of undigested food), I regard the matter of treatment as far more simple than a glance at our text-books would lead us to suppose.

The first of these causes is easily obviated by attention to diet. The second, occurring as it most usually does in early summer, in our large cities, requires fresh air, attention to the skin, frequent bathing, cold sponging, and light clothing, with ice to the inflamed gums, if needful, before any medicinal treatment will be of avail. Lessen the reflex irritability by means of the bromides, particularly those of potassium and ammonium, and having once prevented the further action of the cause, reëstablish the normal secretions within the intestinal track. The association of teething with the various digestive and nutritive disorders of children is certainly complete, if, indeed, they are not dependent upon one another, as some authors refuse to believe. It may be that teething renders a child extraordinarily vulnerable to outside influences, but I believe that they are more closely connected. Should the case come to us in which intestinal catarrh has been fairly established, our treat-

ment will depend upon which of the two varieties before mentioned we have to deal with. Suppose, for instance, the child be brought to our notice with the following symptoms: A diarrhœa that has lasted several days, of from six to twelve passages a day. The stools are light-yellow or white, watery, curdled and containing considerable mucus. There is pain, described as colicky, which has lasted from the commencement, with flatulence. The child has vomited almost immediately after nursing. It has been fed on milk which has heretofore agreed with it; the matter vomited has been extremely acid, and composed almost entirely of curdled milk. The mouth is dry, the tongue coated with a white fur. Emaciation is beginning to show itself. Our first endeavor should be to discharge from the bowel the decomposing curds and mucus, and to reëstablish the secretion of the various glands. Often repeated doses of the emulsion ol. ricini, with or without the addition of creasote in minute doses (depending upon the fetidity of the stools), are indicated when the stools are lumpy and mucoid, and when there is much straining; this may be followed by injections of starch water, to act directly upon the mucous membrane of the rectum; otherwise minute doses of calomel with bismuth in full doses, and with or without rhubarb, should be used from the start. It would be folly to attempt to feed a child in this condition upon its usual diet; give pieces of ice to such if the thirst is excessive; give condensed milk or cow's milk boiled, freely diluted with barley or rice water; substitute weak beef tea if the child's stomach will bear it; avoid sugar in any form, and all varieties of solid food. The stools are acid, and the endeavor should be to neutralize the acidity, and to prevent further fermentation. If the diarrhœa should still continue it can be checked by chalk mixture, or preferably the use of large doses of bismuth and soda, in acacia mucilage. Indeed "soda mint" has acted admirably in many cases. Within the last year my attention has been called to the use of salicylic acid in these cases. I have used it in the following formula in these acid diarrhœas:

℞. Acid salicylic,
Spts. ammon. aromat, q.s.,
Aq. menth. pip. M.

Sig. Beginning with half-grain doses three or four times daily for a child a year old. It may be used in powder with bismuth.

Of the other variety of diarrhœa, I may cite the following as an example. A child is brought in this condition; sudden and profuse diarrhœa, with or without vomiting, has set in, attended with more or less rise in temperature. The stools soon become dark green and very watery; there is scarcely any flatulence, but the child cries with incessant pain, which soon gives evidence of a cerebral origin. The stools may be alkaline. I have previously suggested a reason, which I think plausible. In such cases it has been found that the only certain and effectual treatment, after making use of the hygienic measures before suggested for such cases, is the acid one, the free use of the diluted mineral acids associated with very small doses of morphia and brandy, p. r. n. If necessary nux vomica, gallic acid, or even ergot, may be added to the mixture. The acids will quickly alter the character of the stools, and their use must be abandoned as soon as they neutralize the excessive alkalinity. The child may be nursed in mild attacks, particularly if it is very young; otherwise, use condensed milk, or cow's milk, diluted, warm and *fresh*. Lime water seems to be injurious, as would be supposed. It may be necessary to give at the commencement a small dose of castor-oil to empty the bowels and to relieve the capillary engorgement, before using the acids. The bromides are indicated, and cold sponging with acidulated water is also of great advantage.

For internal treatment dilute nitro-muriatic acid is probably preferable to any other form, particularly after the very acute part of the attack, on account of its action on the secretions. Aromatic sulphuric acid is decidedly the best in other cases, being most astringent, and should be used where the stools are dark and frequent. Dilute phosphoric acid may be ordered where there is much exhaustion. I have expressed myself highly in favor of condensed milk, partly because it is easy of digestion, on account of the absence of oil; also because there is no danger of it forming large and irritant curds. But when it is used the oil must be supplied in another way.

The rubbing of cod oil has been followed by such excellent results that I again* desire to call attention to it. In all cases that I thought it advisable to recommend condensed milk, I have invariably found the treatment defective unless associated with the outward application of some of the oils, preferably cod oil, though I may say that cocoanut oil† may be substituted if the odor of the former is too objectionable.

I quote a few cases from my note book to show how much gain can be expected.

A. B., aged two years, delicate from birth, was brought to the hospital unable to walk, emaciated from continued diarrhœa. No measurements taken. After two months of cod-oil rubbing, this child grew strong and hearty.

C. D., aged three years, very delicate child. After an attack of scarlatina became emaciated and dyspeptic. On the 9th of August, 1876, ordered nothing but beef juice, condensed milk and cod-oil rubbing. On August 27th the child weighed 24½ pounds. On September 18th weight was 29½ pounds, and after this improvement continued.

E. F., aged thirteen months; rapid emaciation following entero-colitis. Placed on condensed milk and cod-oil rubbing. August 23d weighed 14 pounds. October 10th weighed 17½ pounds.

G. H., aged thirteen months, with same history as last. On September 4th, 18 pounds. September 12th, after treatment, weighed 19 pounds.

J. K. This child was brought to the hospital so weak as to be almost moribund. The emaciation was excessive, and the diarrhœa was continuous. Small doses of brandy and sulphuric acid were administered. Condensed milk freely diluted, and beef juice given at intervals. Cod-oil rubbing twice daily. On September 10th, the date of application, this child weighed 14 pounds. On September 26th, its weight was 16 pounds and 2 ounces. Within a few weeks the child walked into the clinic-room strong and active.

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* See Philadelphia "Medical Times."

† As recommended by Dr. S. Weir Mitchell.

These few cases will serve, I think, to show the value of this form of treatment.

The following cases, taken from my note book, will illustrate the above paper.

August 2d.—Girl, fifteen months; sick four weeks; four or five passages a day, green and watery. Diagnosis, atony from entero-colitis. Ordered nitro-muriatic acid diluted with tincture nux vomica, in syrup. August 18th, returned as well.

August 2d.—Child, nineteen months; sick three days; eight passages; light green, slimy; ordered emulsion ol. ricini. August 6th, stools free from mucus; ordered soda bicarbonate, pulv. rhei, pepsin. August 18th, reported as well.

August 3d.—Aged eleven months; slight vomiting; passages dark green and very watery; ordered aromatic sulphuric acid and brandy. August 5th, passages solid, natural; no vomiting; well.

August 24th.—Aged thirteen months; watery, light yellow stools; frequent vomiting; tried sulphuric acid mixture. August 27th, passages still acid, child no better; ordered bismuth, salicylic acid, soda bicarbonate in mucilage. August 31st, child well; passages neutral.

August 27th.—Seventeen months; continual stools, yellow, watery, and vomiting; tried sulphuric acid mixture with no effect, replaced it by alkaline mixture; child reported as well.

I have endeavored to show that the treatment of the diarrhœas of children is not altogether an empirical one, as would be supposed from reading the many journal articles of the day. The choice between the acid and alkaline treatment is based upon thoroughly scientific principles, which leaves the practitioner very little room for doubt which form of treatment will be the most serviceable in each particular case. If my report, the result of investigation of over a thousand cases, coïncides with that of others of the profession, my labors will not go unrewarded.—*Phil. Med. and Surg. Rep.*

ART. II.—*Diseases of Women — Hystero-Psychosis — Epilepsy Dependent upon Erosions of the Cervix Uteri.* By GEORGE J. ENGELMAN, M. D., St. Louis.

I have of late endeavored to call attention to a class of cases which I have described as hystero-neuroses; cases which may simulate the most varied diseases, but which are mere reflex phenomena dependent upon uterine derangements, and are distinctly proven to be so dependent by their disappearance upon cure of the uterine affection by local treatment.

The subjoined case is a reflex insanity, following and caused by disease of the womb, a hystero-psychosis, or, more definitely, a hystero-epilepsy; hystero-epilepsy proper, not hystero-epilepsy as the term is used by alienists, also by Hammond and others, i. e., epilepsy in hysterical women, or epilepsy accompanied by erotic manifestations, but epilepsy with a uterine causation.

Mrs. O., a medium-sized brunette, aged twenty-eight, first menstruated in her fifteenth year, and married in her twenty-fourth; period perfectly normal, both before and after marriage, lasting three days, never painful; has always been healthy; no hereditary taint. She had one miscarriage, in about the sixth week, soon after marriage; since then she has borne two children, the youngest of which is now eighteen months old.

A few weeks after the last confinement, she first complained of that heaviness of the head, the dizziness and languor from which she has suffered ever since; the epileptic attacks appeared at the same time, at first in a very mild form, once or twice a month, as an oppression of the chest and a shortness of breath, which would pass away in the course of five or ten minutes.

These attacks rapidly increased in frequency and in severity, beginning in the same way with a shortness of breath, an oppression, a feeling of constriction of the chest, then a twitching in the fingers, a spasmodic closing of the hands, and she becomes unconscious; convulsive movements of the arms and opisthotonos follow; this is sometimes so intense that the heels almost touch the head, and the contractions of the dorsal muscles have been so sudden and so violent that the patient has hurled herself from the middle of the bed upon the floor by a single effort.

During the attack, which lasts from ten to fifteen minutes, the patient is totally unconscious, eyes are closed, hands not firmly clinched, thumbs not turned in; a stage of relaxation follows. During the last month she was confined to her bed; the attacks were severe and quite frequent, and her condition grew constantly more unbearable notwithstanding the liberal use of chloral and bromide of potash, which was very properly prescribed by the physician in attendance.

As the patient did not improve, Dr. H. Greiner was called in. He pursued a similar course of treatment, adding opium injections. By a mistake of the patient, a teaspoonful of the strong tincture of opium was taken internally, but even this did not check the attacks, which now appeared three or four times a day, lasting with great intensity from ten to fifteen minutes at a time.

March 18, 1878, I first saw Mrs. O. in consultation with Dr. Greiner. We had hardly entered the room when her hands began to twitch, her eyes closed, her head was plunged into the bedding, and complete opisthotonos was established; the spasm yielded for a moment, to return with increased severity; the violent contractions of the dorsal muscles hurling the patient from one side of the bed to the other, so that she was with difficulty held down by our combined efforts. After the attack, which lasted about twelve minutes, a stupor supervened.

I found the patient in great suffering, complaining especially of dorsal and hypogastric pain, heaviness of the head, occasional febrile symptoms, and, at times, nausea and vomiting, more particularly in the morning; the bowels were constipated, conjunctiva slightly injected, pupils normal, reäction perfect but slow. She had a dull, stupid look, and was not very prompt in her answers; in fact Dr. Greiner had told me that I must have patience, as she was rather slow of understanding. The abdomen was tense and very sensitive to the touch, especially so in the right side, where we found some dullness on percussion, slight tumefaction, and apparently a gurgling sound on pressure.

The vaginal walls were swollen; the cervix uteri was enlarged and congested with extensive erosions (generally spoken of as ulcerations) surrounding the os; the cervix was very sensitive,

but not so exquisitely painful upon the slightest touch as the enlargement which could be felt just behind in the posterior cul-de-sac; a harder tumor was found to the left, probably fæcal masses.

Although one period had been missed, patient having last menstruated on the 18th of January, I determined to pass the sound, which entered easily to the depth of $7\frac{3}{4}$ c. m.; caused no pain; did not give a soft feel when pressed against the fundus, and did not bring a drop of blood. The condition of the pelvic organs was such that a careful examination could not be made; pregnancy was probable, but as I deemed the epileptic attack to be due to the pathological condition of the womb, I determined to confine the treatment to this organ and its adnexa, regardless of the consequences to the ovum, and to stop all medication.

The eroded cervix was thoroughly cauterized with nitric acid and a glycerine-cotton tampon introduced; warm poultices were ordered to the abdomen, and three times a day vaginal injections, first flaxseed tea with opium, later hot water; the bowels were kept open by mild laxatives.

With the exception of a slight spasm on the evening of the 18th, the epileptic attacks did not recur from the time of the application of the nitric acid until the 22d, notwithstanding the discontinuance of all sedatives. The abdominal hardness and pain disappeared entirely in the course of two days; the patient was soon comfortable, but weak; and an attack of intermittent, which made its appearance, readily yielded to quinine.

On the 23d the parts were soft; yielding; no longer sensitive; and I was enabled to make a thorough bi-manual examination. I found an elastic tumor in the posterior cul-de-sac, which I supposed to be a retroflected gravid uterus. Fearing a return of the epileptic attacks, and the vomiting being quite annoying, I determined to satisfy myself as to the condition, and with sound and fingers I replaced the uterus and moved the sound freely about in the cavity of the womb; neither blood nor liquor amnii followed this action. Carbolic acid ℥i to ℥i (glycerine and spirit. vini āā) was then applied to the greatly improved cervix.

On the 24th the patient had a very severe attack, for which

Dr. Greiner was obliged to resort to the use of chloroform; on the following day we again met at the bedside; the erosion was improving, the womb was in its normal position, hence the previously existing flexion could not have produced the neurosis. As merely a slight show of blood had followed the previous use of the sound, I became doubtful as to the diagnosis of pregnancy, but, determined to relieve the uterus of its contents, if there were any, I again passed the instrument freely around the supposed ovum, giving but little pain and causing no flow.

March 24th, no hæmorrhage or discharge of any kind, no epileptic attacks, but distressing vomiting; a sponge tent was introduced in order that we might finally determine the cause of the uterine enlargement, and, if due to conception, produce miscarriage. The removal of the tent on the next day, the 27th, was followed by the expulsion of a healthy ovum on the 31st.

I did not see the patient until two days later, and found her remarkably changed; her complexion was better, she had lost that dull, stupid look; vomiting had ceased with the expulsion of the ovum, and the epileptic attacks had not returned since the severe spell on the 24th; in fact, had only appeared twice after the first cauterization of the cervix.

The abdomen was soft; there was no tenderness; she had no complaint to make, and expressed herself as again feeling "like a well woman."

Two weeks after the miscarriage, Mrs. O. was attending to the lighter duties of the household, feeling more vigorous and more cheerful than she had felt at any time since the birth of her last child; the attacks had not recurred, and she was free from that dizziness and languor which had previously oppressed her.

I have described two equally striking cases in my article on the hystero-neuroses (Transactions of the American Gynæcological Society, Vol. I, 1877); in one the epileptic attacks disappeared on cure of the erosions, endocervicitis and amenorrhœa; in the other the result was still more remarkable, as an almost idiotic child, with frequent epileptic attacks of long dura-

tion, a burden to those about her, was restored as a useful member to the circle of her friends, and developed into a fair-looking girl by establishment of the menstrual flow and cure of the uterine disorder.

These cases of hystero-neuroses, of reflex disease, whether of the nerve centres, of the pharynx, the bronchi, or other organs, merit greater attention, and it should be accorded them on account of their practical importance to the family physician as well as the specialist. Our text books are silent upon this subject, which has been neglected to the detriment of many a sufferer; many a poor woman, with an intractable cough, or perhaps an annoying dyspepsia, has been in vain dosed with all the varied treasures of the pharmacopœia, when the speculum alone could have pointed the way to a successful treatment.

Worse still is the history of those unfortunates who have been thrust into insane asylums to end, as wretched beings deprived of reason, a life which might have been one of utility and of happiness had the uterine disease, the primary cause of the mental derangement, been recognized and treated in time.—*St. Louis Clinical Record.*

ABSTRACT DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."

CONDUCTED BY EDWARD MILLER, M. D., LOUISVILLE, KY.

On the Use of the Actual Cautery in Surgical Operations. By Henry Lee.—Mr. Lee says that before the discovery of anæsthetics the use of the actual cautery was justly regarded as barbarous. The traditions of a former age have descended to our own, and this use of a hot iron is now barely tolerated in scientific surgery. The objections to its use vanish, however, as soon as it can be applied without giving pain, and we may therefore consider its advantages as compared with other modes of arresting hæmorrhage. Mr. Lee has been in the habit of

using it for the last twenty years to seal bleeding vessels, and details three cases of amputation of the leg in which the iron, heated to a black-red, was successfully used for arresting the bleeding. In the present improved condition of surgery the actual cautery is not recommended as the best, as it can not well be used with ether or the carbolic spray. Where, however, the means of carrying out the antiseptic measures are not at hand, the hot iron has some advantages over other modes of arresting hæmorrhage. The application of the cautery coägulates the albumen in the blood as well as in the tissues to which it is applied, and if used at a proper heat, will cause the parts to adhere firmly to the iron as well as to each other; it also coägulates the blood in the vessels. A very superficial layer, if any, of the parts to which the cautery is applied is killed, and any tissue so killed is charred, so as not to become liable to septic decomposition. The actual cautery closes the veins as well as the arteries, and thus removes the great danger from the absorption of septic agents through the unclosed veins. The septic action commenced around the slough included in the ligature may be communicated to the surrounding parts, and from these septic absorption may take place through the veins. This, in fact, is one of the most fruitful sources of pyæmia. No such possible source of infection follows the use of the actual cautery. The actual cautery may be sometimes applied where a ligature can not; as, for instance, in the wounds of the palmar arch. Mr. Lee has never seen a case of purulent absorption following the use of the actual cautery, although he has applied it frequently for the last twenty-five years, more especially in a large number of cases of hæmorrhoidal tumors. Another advantage of the cautery is that it can be applied more quickly than the ligature. Mr. Lee prefers the common iron cautery to the benzoline "thermo-cautery" knife when no dissection is to be made, and judges of the proper heat by dabbing the iron on a moderately wet sponge until only a little steam is generated.—*Lancet.*

The Diagnosis and Treatment of Foreign Bodies in the Air Passages. By George Johnson, M. D., F. R. S.—Dr. Johnson says that a foreign body having passed down the trachea

usually enters the right bronchus, as it is larger than the left, and the septum between the bronchi is inclined to the left. The physical signs of a foreign body in the bronchus are: Natural resonance on percussion, with absence or feebleness of the respiratory murmur over one lung, according to the degree of the obstruction of the bronchus, diminished mobility of the affected side, puerile breathing over the unobstructed. The obstruction will vary with the shape of the body, being greater when the foreign substance is round than when it is irregular. If the body be movable, so as to be coughed up towards the larynx, the respiratory sound returns for a time to the previously obstructed side. There is distressing spasm of the glottis when the body is driven up to the larynx, a circumstance more likely to happen with bodies of a low specific gravity, such as vegetable substances. The weight of a body, however, does not necessarily prevent its expectoration. Although in the majority of cases there is great distress, the foreign body, if of such a size and shape as not to close the tube entirely, may occasion scarcely any inconvenience. The ultimate result of the inflammation set up by a foreign body is very variable. It may destroy life in a few days or it may subside, and the body remain for months or even years without causing violent symptoms.

The symptoms are usually protracted cough, pain in the affected side, purulent expectoration, and hæmoptysis. If the body is coughed up, the patient may recover completely, or he may gradually sink and perish some time after. The grounds for the diagnosis of a foreign body in a bronchus are: 1. Signs of obstruction of one bronchus, usually the right, either partial or complete, and either persistent or intermittent; 2. Physical signs of obstruction of the bronchus, alternating with symptoms of laryngeal irritation and spasm; there may be a sudden rush of air into the lung when the foreign body is coughed up towards the larynx, and an equally sudden obstruction of the bronchus when the body falls back again; 3. Signs of irritation and inflammation of the lung may be present, but when the bronchus is completely obstructed, there may be no moist sounds or respiratory sounds of any kind audible over the obstructed portion of the lung; 4. The symptoms already men-

tioned occur suddenly in a person previously healthy or laboring under symptoms of a different class. Usually a foreign body passing through the larynx goes into one or the other bronchus, but Dr. Stokes quotes one case in which the trachea was obstructed, the offending body being a piece of food.

A foreign body in the larynx is a continuous source of danger, and should be removed as soon as possible, even though the symptoms are not urgent. By the aid of the laryngoscope a body anywhere above the glottis can be seen, and in most cases removed with properly-curved forceps. If from its shape or position it can not be removed from above, an opening in the larynx or trachea will enable the surgeon to push the body up into the mouth with a bent probe. If the obstruction is in the trachea, where it may possibly be seen with the laryngeal mirror, no time should be lost in opening the trachea, when it will be either spontaneously expelled, or it may be removed with the forceps. Foreign bodies in the bronchus may be occasionally coughed up, and tracheotomy, therefore, is not to be resorted to immediately, as a matter of course.

There are three classes of symptoms, however, which call for immediate surgical interference. These are: 1. Persistent and urgent dyspnœa; 2. Paroxysmal dyspnœa; 3. Symptoms of irritation and inflammation of the lung. Tracheotomy in the case of a foreign body in a bronchus may be a means of relief in various ways: 1. It may allow of the expulsion of the offending substance by an effort of coughing; 2. By means of long and slender forceps the foreign body may be extracted from the bronchus; 3. When the foreign body, from its shape or from the irritability of the lining membrane of the air passages, can not be seized, the patient may be inverted and the foreign body drop out of itself. After the expulsion of the offending substance, the case is to be treated upon general principles.—*The Lancet.*

The Treatment of Chronic Cystitis by an Exclusively Milk Diet. By W. F. Teevan, B. A., F. R. C. S.—In 1871 Mr. Teevan operated on a patient for stone by lithotrity, and completely got rid of a phosphatic stone in four crushings. Four

years after the patient presented himself and was found to be suffering from an enlarged prostate, for which he was instructed to use the catheter. In three years the patient again presented himself, suffering from chronic cystitis. He complained that he was always in pain; his nights were broken; his strength greatly lessened; he was not able to work, and his urine was a mixture of muco-pus adhering tenaciously to the *pot de chamber*. He was treated by various injections, medicines, and washing out the bladder, without relief. Mr. Teevan then determined to try Dr. George Johnson's method of an exclusive milk diet. Having got his alimentary canal in proper condition, the patient began, on June 20th, to live on milk alone, taking half a pint every two hours. The milk seeming to agree with the patient, the treatment was persisted in, and he was discharged July 5th quite cured of his cystitis. A month afterward he remained well, of course using his catheter as usual

Mr. Teevan gives to Dr. George Johnson the entire credit of the patient's cure. Although Mr. Teevan always advises patients suffering from any irritation of the urinary tract to live chiefly on milk and fish, he never before had tried an exclusive milk diet. Encouraged by this case, he has greatly relieved other sufferers in the same manner. Chronic cystitis being one of the most troublesome complaints to treat, any means, however limited in success, must be gladly welcomed. Dr. Johnson also points out that the milk diet mitigates the irritation which attends or follows the operation of lithotrity. The influence of an exclusively milk diet on the urinary tract and secretion is well seen in cases of children suffering from incontinence of urine, who can often be cured by ordering them to eliminate meat from their dietary and to live on milk alone, or milk and fish, if existence on an aliment can not be tolerated.—*Lancet.*

Effects of Forceps Delivery on the Infant. By J. G. Swayne, M. D.—Dr. Swayne says the more frequent use of the forceps in difficult labor distinguishes the midwifery of the present from that of the past, and there is no doubt that women in labor are saved a vast amount of suffering, and that their safety is materially increased. The effects of forceps delivery upon the

infant is a subject upon which there is still much conflicting evidence.

Dr. Galabin published a careful and elaborate paper upon this subject in the "Obstetrical Journal" for December, based upon a large number of statistics, and he comes to the conclusion, with which Dr. Swayne entirely agrees, that "it has not been shown that the majority, or any considerable proportion of the still-births which now occur in Britain, would be preventable by the more timely resort to the forceps." Dr. Swayne fortifies this statement by an analysis of one hundred and sixty-three cases in his own practice. There can be no doubt that tedious and difficult labor is a process more dangerous to the child than to the mother. In an ordinary labor the fœtal head undergoes a certain amount of pressure, which causes a certain amount of alteration in shape, or "moulding," as it is called with impunity; but if this process is carried beyond a certain point, either as to intensity or duration, it is fraught with the greatest danger to the child. The importance to be considered, is whether the timely use of the forceps saves the child from this dangerous amount of pressure. Dr. Swayne does not think that it does; for he believes that it diminishes the duration only by increasing the intensity of the pressure. Nearly three-fourths of the still-born children that Dr. Swayne has delivered were consultation cases, and therefore peculiarly difficult. In most the head was much elongated from compression in a narrow pelvis, rendering the forceps liable to slip and necessitating a firmer hold. There is also in exceptional cases a danger, impossible to be foreseen, that the umbilical cord may be around the child's neck and be compressed by the forceps. Dr. Swayne's experience therefore leads him to coïncide with Dr. Galabin; but he does not think that the risk to the child should prevent the use of the forceps if the head has actually ceased to advance, or if any unfavorable symptom has set in, in consequence of the length of the labor.—*Brit. Med. Jour.*

The Use of Arsenic in Nervous Exhaustion. By W. Myers, M. D.—In the capricious nervous exhaustion due to hereditary tendency, the sympathetic and pneumogastric nerves are usually

most at fault. When such is the case, arsenic and nux vomica are the most reliable remedies; in fact, if given with care, their action is almost specific. There is not so much to dread from overdosing as from inability to retain the dose long enough to be assimilated. Care must be taken that the mucous lining of the alimentary canal is not irritated by the medicine. A neglect of this precaution will render the remedy useless, confuse and disappoint the physician, while it weakens the means of cure. In all cases where there is much nervous irritability present (watchfulness, despondency, and a sense of impending danger), sponging night and morning with cold or tepid water over the body, particularly the loins, abdomen, and spine, will have a very refreshing effect, and induce better nights and more cheerful days when conjoined to the other treatment. The uncertainty of memory, feelings of alarm, and confusion of the mental faculties, due to the state of exhaustion, will gradually pass away as the treatment takes effect, and this may be taken as an indication of the improvement, whilst some of the minor, though still unpleasant symptoms, may remain a considerable time, or come and go in an aggravating manner before their permanent removal.—*Cin. Clinic and Lancet.*

The Treatment of Ulcers and Varicose Veins by Martin's Strong Elastic Bandage. By GEORGE W. CALLENDER, F. R. S.—Mr. Callender says he has for some time been using the elastic bandage, as recommended by Martin, of Boston, Mass., for the treatment of varicose ulcers and veins, and thinks highly of it. Under its influence ulcers, non-specific in character, quickly heal, and whilst the patient follows his usual occupation. In varicose veins its application affords great relief; and in one case, in which the patient was able to afford the best kind of elastic (silk stockings), more benefit followed than from any other resource. In many cases of ulcers due to varicose veins the good results claimed by Dr. Martin were obtained. The bandage should be such as is described by the author in the Transactions of the American Medical Association for 1877. If thicker it would be clumsy; if thinner it needs to be more tightly drawn, and the edges cut into the flesh. The bandage

should be applied before the patient rises from his bed in the morning—before, that is, the veins of the leg become distended with blood. The moment the foot is put to the ground the limb is so increased in bulk by the blood in the veins that the bandage becomes of precisely the proper degree of tightness, and no matter what the occupation of the patient, it will remain in position all day. When the patient undresses at night the bandage is removed and the limb wiped dry, a piece of lint smeared with cerate laid on the ulcer and confined by a few turns of an ordinary roller. The bandage should be sponged with water and hung over a line to dry for morning. Such is the dressing for the night; in the morning all traces of cerate should be wiped away, as contact with fatty matter injures the rubber. This is the whole treatment—rubber bandage all day with erect position and exercise. The simplest possible dressing (merely to protect the ulcer from injury), with horizontal position and rest all night. Any pimples that may form are left to be treated by the rubber, and if chafing occurs, a light bandage is applied under the rubber, as is also recommended to absorb excessive moisture.—*Lancet.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—*Extirpation of a Lipomatous Tumor from the Axilla.* By JAS. M. MCCOMAS, Sturgeon, Mo.

Mr. B., the subject from which this tumor was removed, is of the nervo-sanguineous temperament, possessed of only medium vitality, and when exposed to severe atmospheric changes, suffers from renal congestion and hæmaturia, and for some years past has been annoyed with imperfect digestion and an irregular condition of the bowels. Notwithstanding the difficulties above mentioned, the general health of the patient has been such as would admit for the most time of his attending the ordinary duties of the farm, which occupation he follows. He is of light

frame, small muscular development, weighing about 140 pounds, and forty-seven years of age.

In describing this case I will aim only to give a brief account of the tumor, its growth, appearance, and other relations connected with the health of the individual, as my notes were very deficient as to data, not having been prepared with the usual care when intended for references.

In searching for the origin of this tumor, I failed to find any assignable cause whatever, it being first discovered by the patient some time during the autumn of 1866. Situated in the axilla or armpit of the right side, and described by him at first as feeling like a small doughy mass, being easily moved by seizing and manipulating the surrounding integument. It continued in this condition during the first five years of its growth, which was marked by the usual slow progress which sometimes characterizes such growths, when a change from its former condition was made apparent. All the surrounding attachments grew stronger; its growth was perceptibly increased; it did not admit of the usual amount of motion; was more elastic, and being situated as it was in the axilla, the increased growth began to impede the motion of the limb to an extent, which threatened to interfere with the occupation of the patient. While in this condition atrophy of the muscles of the upper arm was discovered, extending down to the elbow-joint, with a sensation complained of by the patient like that of numbness of the limb when exposed for a long time to severe cold, all of which latter symptoms were referable to the pressure produced by the tumor on the axillary plexus of nerves and their neighboring blood vessels, causing atrophy of the muscles and anæsthesia of the limb.

The kind of tumor met with in this case combined both the adipose and fibrous types; was strongly interwoven with bands of fascia, and presenting at the base, when cut across, a white and glistening appearance peculiar to cartilaginous ous growths, whilst that of the external surface inclined more to the fatty tumor. The shape presented was of a somewhat lobulated appearance, and weighed, after its removal, two and a half pounds.

The operation for the removal of this tumor was performed on December 4, 1874, with the kind assistance of my friend, Dr. B. F. Austin, who brought the patient under the influence of chloroform; and it might be well to note here the singular fact that it did not require the administration of but three drachms of the anæsthetic to complete the operation, which lasted three or four minutes, being probably the smallest quantity of chloroform ever used to produce complete anæsthesia, even during the most trivial operation. After lifting the arm from the body and fixing it above the chest, I made a single incision, commencing under the upper arm at a point very nearly corresponding with the coraco-brachialis muscle, and carrying it downward some six or seven inches with the anterior surface of the dorsal muscle, exposing the entire tumor, which I thought to turn out with my fingers in the usual way, but I found its attachments so strong that I was compelled to dissect out the entire mass with the knife, which, as I have already stated, required three or four minutes for its completion, when the flaps of skin were trimmed down, and the wound closed by sutures in the ordinary way. On the patient being restored to consciousness, he complained of severe smarting pain in the axilla, which was promptly relieved by the hypodermic use of morphia, and the wound dressed with warm or tepid water, and directed to be continued during my absence.

On the day following, December 5th, I visited the patient and found him tolerably comfortable; wound looking well; had taken a liberal amount of nourishment during the day; did not complain of anything in particular, only he could not sleep. I thought his wakefulness might be attributed to the effects of the morphia, as he remembered the exhibition of the drug had on other occasions made him wakeful.

On December 8th I visited the patient again, and found him suffering from headache, with dry tongue, pulse 120, and no desire for food. On examining the wound, I found a portion of the posterior flap at the angle of the axilla had commenced to slough, and was sending forth a very fetid and disagreeable odor. I removed all the sutures and cleansed the wound with a few syringefuls of carbolized water, and ordered the dress-

ings of the same continued until the disagreeable odor subsided, when the warm-water dressings could be resumed. For the febrile symptoms I prescribed quinia sulph., grs. iij; potass. chlor., grs. x, every two hours until four portions were taken each morning while the febrile symptoms continued, with a colocynth and calomel pill at night to render the bowels more soluble.

On December 11th I found a marked improvement in all the symptoms; the slough had separated, and the wound presented a very healthy aspect; the appetite was improved, and the patient had been very much refreshed by a whole night's rest, and continued to improve, the wound healing without any further trouble.

ART. II.—*A Case of Median Perineal Lithotomy for Chronic Cystitis.* Reported by J. CUMMINGS, M. D., of Austin, Texas, Member of the Texas State Medical Association and U. S. Pension Surgeon.

Was called January 23, 1878, to see W. C., aged sixty-eight, in the country, a distance of seven miles. He was suffering intensely with frequent desire to micturate, always attended by violent spasm in the region of the neck of the bladder. There was also considerable tenderness over the hypogastric region. He had been disposed to make urine frequently and with difficulty for many years, but the pain and soreness over the bladder had been violent only about two weeks. I introduced a catheter, not only for the purpose of diagnosis, but hoped that some relief would follow. Some roughness was detected, however not well defined; no click as from a stone, consequently I advised him, after administering anodynes and diuretics, to come to town as soon as he could, as I intended to administer chloroform, and, if possible, ascertain the cause of his suffering. There was no history of profuse discharge of pus at any time previous to this attack. He had had slight urethral discharge. In about ten days he came, as I had directed, but had been a constant sufferer. At night he had to make water from ten to twenty

times; apparently the pains were as intense as with a woman in labor. He was extremely prostrated from his intense suffering and loss of sleep; relief from anodynes was only temporary; injections into the bladder did him no good. Assisted by Drs. Taylor, Carothers, Bibb and Burt, we administered chloroform, and thoroughly explored the bladder. February 2d, the same roughness referred to was detected, but it could not be determined positively to what it was due. None of us were satisfied of the existence of a stone, unless encysted. We all agreed that there existed thickening of the wall of the bladder, due to chronic cystitis. The prolonged trouble with frequent recurrence of the spasm of the sphincter of the outlet, together with probable general muscular contraction of the vesicus, evidently had largely to do with this thickening. We desisted on this occasion from further proceeding, as we did not detect a stone, neither were we satisfied of the real condition. He expressed himself as being very much disappointed, because nothing had been done to relieve his intense suffering. He said that he would rather die than remain longer in his present condition.

The exploration gave no relief, but rather added to his distress. The symptoms became so urgent that on the 4th of February I recalled the assistant physicians, Drs. Taylor, Carothers, Bibb, and Burt, when we determined to perform the median lithotomy operation; not, however, for stone (unless we found one encysted), but to give the bladder rest by paralyzing the sphincter muscle of the bladder, and remove any obstruction at the outlet. There existed on the posterior wall of the bladder, near its neck, adhesive bands lying transversely; these were evidently what had been felt, and gave the idea of a tumor of small size, or a stone encysted. The propriety of performing the operation for chronic cystitis, with these same bands, was fully discussed and agreed upon, and it was also thought this might be the condition existing. The coats of the bladder were very much thickened; all were satisfied that the case was simply chronic cystitis with its results, as several, if not all, present introduced their index finger into the bladder and explored the cavity in that way after the operation. We were all anxious to observe the results, whether, if relieved, it would

be temporary or permanent. None present were aware of the operation ever having been performed for chronic cystitis, although it has been suggested that this proceeding had been recommended.

I would be glad for any one accessible to records on this subject to communicate through this Journal anything they may find, and if any such cases have occurred, and relief or otherwise has followed, to let the profession know. We would like to be enlightened on this very important subject—important especially to old men suffering from inordinate and painful micturition.

Four months have elapsed since the operation, and there has been no recurrence of the trouble. From indiscretion in walking quite a distance in less than three weeks after the operation, he was attacked with orchitis of one testicle, but this soon subsided, and he has become a hale, hearty, and happy man. Should any recurrent symptoms appear in the future, I will report to this Journal, so that its readers may be apprised of all the facts in this case.

ART. III.—*Injury to the Skull — Dura Mater Lacerated to the Extent of Three Inches — Brains Protruded.* By G. W. DUNCAN, M. D., Franklin, Ky.

Thomas Jenkins, a boy six years old, was regarded by his friends and relations as a prodigy for intelligence. His widowed mother depicted for him a bright future, but unfortunately he was kicked by a colt on the left side of the forehead near the edge of the hair, shattering and driving in the bone. The fracture extended three inches horizontally and two inches upward to the coronal suture, in shape like a large tablespoon flattened. On the floor where he laid was a pint of blood mixed with brains; at the place where he fell on the roadside was also blood and brains. I could not estimate the amount lost up to this time. The fragments of bone were elevated and removed, in connection with other extraneous substances, such as hair, dirt and gravel. The dura mater was lacerated to the full extent

of the external wound; breathing stertorous; pulse scarcely perceptible; total insensibility to all external impressions. Having cleansed the wound and applied the cold-water dressing, I left, supposing Tommy's days had been numbered. Two days afterward he still lived; was unconscious; breathed heavily; pulse more regular and full. On removing the dressing, found the brain protruding half the size of a goose egg. Cerebral hernia, and in a gangrenous condition. This was removed to a level of the surrounding bones; the wound redressed, using adhesive strips and bandage. The quantity of cerebral substance lost from first to last was estimated at four ounces, all from the left hemisphere.

Without detailing the history of the treatment or progress of the case, I will simply state that in six weeks after the infliction of the wound our patient was able to walk around the room, the wound (external integuments) almost entirely healed up, with every prospect of complete recovery in a short time.

He had no remembrance of what had occurred, or how he got hurt. Except a slowness in speech we could not discover any change in his mind. His mother thought that on account of the amount of brains lost Tommy would be only serviceable on the farm. A gentleman in the neighborhood, who taught school, was anxious to test the condition of his mind, and he influenced his mother to send him to school, charging nothing for tuition. Tommy went to school and learned very fast, and at the end of a five month's session, delivered, in splendid style, an oration which he had committed to memory.

Two months elapsed before the school commenced again, and to the mortification of all parties, Tommy had forgotten all he had learned. But more wonderful still, he remembered all that he had learned previous to the infliction of the wound.

Psycologically, the above case is worthy of investigation and record. The young man is still living in our county, and is a worthy citizen.

He has a slowness of speech; his mind is treacherous, but sufficient to transact business on the farm, and is also famous in a horse trade, a striking characteristic of his father.

ART. IV.—*The Pathology and Treatment of Headache.* By Dr. DAY, Clinical Lecturer in the Samaritan Hospital, London, England.

Dr. Day, in a clinical lecture delivered at the Samaritan Hospital, considers the various forms of headache, and their appropriate methods of treatment. Headache occurs in cases of anæmia, and in hyperæmia. In headache from cerebral anæmia the pain is referred to the top of the head, which often feels hot and burning; whilst in headache from hyperæmia the pain is frontal, throbbing, and bursting. Dr. Day further distinguishes in headache common to both sexes a sympathetic variety, due to some eccentric cause of irritation; nervous headache caused by temporary derangement of the nervous centres; and neuralgic headache. Headache also arises from menorrhagia, and from the action of poisoned blood upon the nerve centres; organic headache is brought about by morbid changes within the skull. Headaches are of frequent occurrence in children, and if persistent are very significant, and should invite more serious attention than a similar disorder in the adult. As to the treatment of headache, Dr. Day advises as a preliminary step a diligent search after the cause of the disorder, which, when found, should be removed as speedily as possible. The remedies to be used are tonic or calmative, as the case may require. If the brain be over-excited, bromides of potassium and ammonium, chloral hydrate and morphia as a hypodermic injection or in other form, may be used. The morphia combined with an infinitesimal dose of atropia, and used with care, has been found to be an invaluable remedy, even in cases of organic disease. In nervous headaches a stimulating emetic of sulphate of zinc, mustard or ipecacuanha will act like magic, as will also a mustard-leaf at the back of the neck, the feet and legs being at the same time put into hot water. In the neuralgic variety tonics are serviceable, especially cod-liver oil, phosphorus, quinine, and arsenic. The local application of aconitina ointment is serviceable in that form known as brow ague. As a general treatment it is recommended to elevate the head at night, and to make use of a hard pillow. In every case the first principle to inculcate is rest.—*Brit. Med. Jour.*

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

District Medical Society of Northwest Arkansas.

At the meeting of the District Medical Society of Northwest Arkansas, which held its second semi-annual meeting at this place on the 11th and 12th of June last, W. B. Welch, M. D., of Boonesboro, Ark., read the following report on Progress of Medicine:

Mr. President and Gentlemen,—The pathology and pathological anatomy of the nervous centres have at all times, in the history of medicine, received much attention, and the best efforts of the greatest workers in medicine have been and are still directed to their elucidation. In many respects the complex structures contained in the cranium still remain to us a *terra incognita*, but the recent labors of Ferrier, Hitzig, Nothnagel, Charcot, Bastian, and others have done much to remove the obscurity which rested on this department of medicine. Neuro-pathology has lately stepped far in advance of the position in which Flourens left it. He said "a lesion of the encephalon which causes loss of station and locomotion is situated in the cerebellum; that which determines general and universal convulsions is situated in the medulla oblongata; and if the symptoms be simply stupor or loss of perception or intelligence, the lesion is situated in the cerebral hemispheres." Cases have been for a long time on record which oppose these conclusions, yet no very important advance was made toward localizing cerebral lesions until the discovery that the centre for communicating our thoughts by language was at or near the third left frontal (Broca's) convolution. It is now known that lesions in or encroaching upon this convolution cause the condition which we denominate aphasia. There are difficulties existing in cerebral pathology, when we come to trace from the symptoms the special locality of cerebral lesion, which obtain to so great an extent in no other organ. Among them are its great sensitiveness to small degrees of pressure, the conditions of anæmia or hyperæmia as modified by fluids of the sub-arachnoid,

perivascular spaces and lymph channels, the peculiarity of its vascular supply, and in the presence of coarse lesions, the surrounding œdema and reäctive irritation necessarily involving parts more or less remote from the special lesion; and this *ensemble* of symptoms is so confused that in most instances we are unable to localize the lesion.

Recent experiments of Ferrier upon the cerebral cortex of the monkey seem to demonstrate that contrary to previous opinion there are motor centres in the cortex or convolutions, and since attention has been directed to this fact many cases of brain lesion, traumatic and spontaneous, have been observed and reported, all tending to establish the fact that a certain portion of the cerebral cortex, viz., the convolutions bordering the fissure of Rolando, gives origin to movements when irritated or damaged by destructive lesions. Other portions of the cerebral cortex have thus far failed to exhibit these phenomena, and therefore this special portion of the convolutions upon the lateral vault of the cranium have received the title of the "motor zone." Of course we would not imply that no other portion of the cerebral mass underlying this region transmits motor impulses, or originates some of them, which has long been known. We have now to do only with the gray matter of the convolutions.

Excitations, and therefore disease, of portions of the cortex referred to as the "motor region" produce localized movements of the face, and destructive lesions of a greater portion result in paralysis. These movements as well as the paralysis are crossed. General excitation of the region produces convulsions of an epileptic character also crossed. The excitations may be so localized that only certain muscles or groups of muscles respond, as for instance those of the eye, the lips, the zygomatici, or those of the arm or leg. As a very strong proof of the reality of this motor influence as existing in the cortex bordering the fissure of Rolando, it is found that lesions of this part of the brain surface of some standing, as to time, result in descending sclerosis of the conducting matter of the brain and spinal cord, while similar lesions existing in other portions of the cortex have no such consequences.

Such we know are the consequences to the white conductors of motor impulses when other motor centres with which they are in relation fail to be functional for a considerable time.

In most cases of hemiplegia from lesions of the great central ganglia the paralysis is complete, and affects the face, leg and arm together; but in paralysis from local lesion of the cortex, it may affect the face only, or the leg or arm, or the leg or arm without the face. In cortical paralysis there is generally a primitive contracture to be followed by paralysis and flaccidity; while in hemiplegia from lesion in the motor ganglia, contracture follows the paralysis after it has existed for months or years.

Partial epilepsies, or unilateral spasms epileptic in character, have lately, in numerous autopsies, been shown to have been caused by lesions in the cortical centres. A variety of epilepsy commencing by an aura in one limb, or in one side of the face or body, is generally caused by a discharging lesion located in the opposite cortical motor region. Cases in which autopsies disclosed lesions of this centre in which the symptoms in life had pointed them out, have now become so numerous, and are accessible to all, that I should only trespass upon your time and tax your patience were I to mention them. But you may well ask, has there resulted any gain in our therapeutics of brain disease from this advance in pathology? It would be a source of great pleasure to me to be able to say our therapeutic resources kept even pace with these advances in other departments of medicine, but they do not. Therapeutics in this case halt lamely behind pathology and semiology, and probably is destined ever to remain so. This much may be said though, that in a unilateral epilepsy we should not address our local treatment, whatever it may be, to the region of the medulla oblongata; and at least in one case ("Lancet," July 7, 1877,) M. Lucas Champonniere detailed to the French Academy of Medicine "how he had solved the problem of employing cerebral localizations for using the trephine; the commencement of his studies being the success he had in a case where there was paralysis of some of the muscles of the right upper extremity with aphasia. The patient, who had no external signs of a

fracture, was trephined almost at a venture, with the idea of lesion of cortex of left hemisphere, and recovered completely."

"What are termed the cortical centres occupy a space limited to the vault of the cranium, and all the convolutions which form them are grouped around the fissure of Rolando, and immediately below the anterior half of the parietal bone. The method of finding it is thus described by M. Champonniere. It is known that in man the fissure of Rolando commences fifty-three millimetres behind the bregma. Fifty-five millimetres (about 26 inches) are to be measured behind it and marked on the skull. Next we must measure behind the external orbitar process a horizontal line seven centimetres (about $2\frac{3}{4}$ inches) long, and erect a line at right angles to its extreme edge three centimetres (about $1\frac{1}{8}$ inch) long; and the point thus found will correspond to the fissure of Rolando. If between these two points we mark off on the integument a straight line, we obtain the line of Rolando; and if the trephine be applied exactly over this line the fissure of Rolando (and of course the cortical motor centres) is invariably found. These measurements are somewhat less for the female.

The correct pathology of cerebral suffering has only very lately been developed through the labors of Huebner and Cohnheim. For an accurate understanding of this class of lesions and their causes, it is necessary that the anatomy of the minute cerebral arteries, or at least their distribution, should be understood. The gray cortical substance of the brain, and the white medullary substance connected with it, as far as the roof of the ventricles, is supplied by blood vessels on a widely different plan from that which exists in the white substance at the base and in the large ganglia, which lie above it and form the floor of the ventricles. The basilar and carotid arteries, circle of Willis, and nearly an inch at the origin of the anterior, middle and posterior cerebral arteries of the basal region, give off small arteries of less than one half mm. in diameter, in a perpendicular direction, which penetrate directly into the nervous substance, then branch, and as so-called "terminal arteries," without receiving collateral branches, break up in the ganglia into capillaries and pass into the smaller veins. But from the

point where these basal arteries attain the surface of the gray substance they run for long distances in the pia mater without giving any large arteries to the brain, but dividing in the pia mater no longer in three, but in two terminations, break up into constantly smaller arteries, which mutually distribute numerous collaterals, and thus form a network by which not only the several branchlets of a main branch, but the various main arteries are put in connection with each other. Thus in this (the cortical and supra-ventricular regions) the anastomotic or collateral arterial system prevails, while in the basal, ganglionic and infra-ventricular regions, the terminal system prevails. Then from this superficially spread network of the pia mater very small, in fact already capillary, vessels penetrate the brain substance in the cortical region. (Huebner in Ziemssen, Vol. xii).

We thus have an anatomical substratum for the frequency of embolisms in the basal arteries and their immediate branches; also a satisfactory reason why embolic processes occur so rarely in the portion of the cerebrum above the ventricles. That embolisms occur in certain of the basal vessels with especial frequency, is a fact taught us by clinical experience and the result of autopsies. Emboli are carried much oftener in the left carotid than in the right, which is explained by the difference in the angle at which the innominate is given off from the aorta. It very rarely happens that these emboli are arrested below the circle of Willis, and in a large majority of cases they are swept into the vessel which forms the direct prolongation of the carotid, the artery of the fissure of Sylvius. Thus is explained the great frequency of cases of aphasia with right hemiplegia, which, in most cases, is the expression of an embolic process in the left Sylvian artery.

Cerebral softening, especially red softening, has long been regarded as a termination of an inflammatory process; but later and more exact investigations have shown it to be, in all its phases, red, yellow, or white, a consequence of embolism. Should an embolus lodge in one of the network of arterioles of the anastomotic or collateral system, in most instances no permanent injury to the brain would occur. The very numerous communicating vessels on the distal, as well as on the proximal,

side of the embolus would amply supply the invaded cerebral territory with blood, and thus the effect would be slight and transient. But we have seen that when an embolus occupies one of the "terminal arteries," it must necessarily produce a necrobiosis or hæmorrhagic infarction. The lumen of the arterioles beyond the embolus may become filled with venous blood by reversal of the current through the capillaries (hæmorrhagic infarction), which is the pathological basis of the red softening, or the engorgement may fail to occur, and thus a whitish, yellow, or white color be given the affected mass. In any event, absence of nutrient supply in the cerebral territory normally nourished by the plugged arteriole is followed by softening of the nervous matter within its bounds, and thus results a circumscribed diffluent mass, colored more or less as the hæmorrhagic infarction may have tinged it; also less and less colored as the time has been longer since the occurrence of the embolism; the symptoms during life having been such as pointed to an arrest of function (be it that of conduction or origination), which belonged, while in a state of integrity, to the necrobiotic mass. If symptoms of a character commonly denoting inflammation at any time during the course of such a case come up (and they are very rare), they are due to the reäctive irritation and collateral œdema in the environing tissues, and are never the cause of the softening. The results of inflammation of the cerebral substance are resolution and suppuration, and if of the interfibrillar areolar tissues, hyperplastic thickenings and indurations.

If we do not derive any advantage in a therapeutic sense from a correct knowledge of the pathology of these cases, we at least spare our unfortunate patients the inconvenience, if not injury, which results from an improper appreciation of the lesion, and spare the infliction of painful counter-irritations, drastic purgations, and ultimately phosphorizing, strychniaizing, and electrizing him under circumstances in which all these resources are powerless for good, yet capable of doing much harm. I regard it of fully as much importance to our patients that we should know what *not* to do as what *should* be done; and if there be any single thing in the practice of the present

generation of medical men more to be reprobated than another, it is the diligence and pertinacity with which medicines are thrown into the stomachs of our patients at the dictation of so-called authorities, reaching out continuously for a cure, hopeless and impossible, from the very nature of the case. Would we stop to reflect and bring to bear upon the resources of the organism and the limits of its reparative forces our own reason, and give less attention to hoary authorities, our patients might be the gainers and our practice more satisfactory to ourselves.

The theory in reference to the causation of infectious diseases now so prominent in the more advanced medical minds of the world should claim notice at our hands. We have reference to the so-called "germ-theory" of disease. Now there is nothing especially new in the suggestion itself, for more than once in the last and present centuries kindred suggestions have been made and advocated for a time, and then passed into the mass of forgotten lore. Not to mention others, I may refer to the works of Sir Henry Holland; his "Medical Notes and Reflections," in which, under the heading of the "Animalcular Theory of Disease—referring to Cholera Asiatica"—he discusses the probability of a particular *contagium vivum*. We now have the same arguments used in reference to low forms of vegetable life, under the names of bacteria, microzymes, monads, etc., as being the essential factors in the genesis of all contagious and infectious fevers, and occupying the faith and attention of the profession almost to the exclusion of all previous hypotheses. And it can not be denied that the progress and decline of this class of diseases are more in consonance with such an existent *materies morbi* than any other causative influence which the prolific mind of the theorist has yet elaborated. Diseases of the class sometimes called zymotic (according to the fermentative theory of the great German chemist, Liebig), consisting of the contagious eruptive fevers proper—typhus, typhoid, relapsing, yellow, and malarial fevers, pyæmia, septicæmia, etc., and doubtless others yet to be added as our knowledge of infective processes increases—constitute the very important ailments of which modern pathologists would explain the cause by referring them to the entrance into the

blood of some intangible vitalized germs (each disease being set up by its special variety), which contagia viva find in the human organism a nidus, where they pass through the periods of growth, maturity, decline, and death contemporaneously with the diseased process which their presence develops. These germs set up disease in the organism by gaining entrance into the fluids of the animal body. Some are carried about in the air we breathe and enter the blood through the lungs; others may be taken into the stomach with food or drink, and work out their allotted rôle.

In order to meet the requirements of the various forms of infectious diseases, it becomes necessary to suppose that some of these reproduce themselves in the human system, *ad infinitum*, and generate contagia proper, leaving the subject in a condition of immunity as to a future attack of the same kind, because of some supposed morphological change in the tissues or their modes of formation inconsistent with a renewal of the disease process—an innocuity from that special germ. These are the contagious eruptive fevers in which syphilis may be included. That others reproduce the germ, not in a fit state to set up diseased action in a healthy body, but that these germs passing out of the diseased body (commonly by intestinal secretions and discharges), have to pass through other stages of development outside the body before they can produce their specific effects on the human organism; and, after a lapse of time, on being taken in with our food or drink, set up there the same series of disease processes as did their parent germs. These are not communicable through the atmosphere, nor through animal fluids in contact with vascular surfaces, but must needs find a nidus on the gastro-intestinal surface to prepare them for their destroying work. Such are denominated miasmatic contagious diseases. Such are cholera Asiatica, typhoid fever, etc. The genetic germ of the third class has origin externally to the animal body. It is not necessary for their reproduction that they be received into a higher organism; they may vegetate for indefinite periods, and, indeed, with phases of development that may follow in rythmical order. As for these, it is not known that the germs reproduced in the system can be conveyed to

other men and infect them, or that they, after escaping from the body, can reproduce themselves further. These are purely miasmatic diseases, and include the malarial fevers. You will observe that the hypothesis is broad enough in its scope to include all diseases of this character at present known to us, and in the absence of a more plausible and satisfactory theory, may for the present claim our support, more especially since a treatment, legitimately based upon such a theory, has probably given to the therapeutist the best results. Besides the accuracy with which the germ theory of infectious diseases dove-tails with the history, course, and self-limited character of these ailments, certain investigations have adduced very strong evidence as to the actual influence of germs in many instances. We have the disposition to offer you only one experiment in this direction. It has been shown from the experiments of Klebs and Kegel that the injection of blood of cattle suffering with splenic fever which contains the rod-like bacteria, thought to be peculiar to that disease, into healthy animals, invariably produces the disease; but if this poisoned blood be filtered through unglazed porcelain, thus removing the bacteria, no such results follow. We can see no difficulty in the idea of low forms of vegetable life gaining the blood and tissues of living animals, when we find them infected by parasites of an animal nature imbedded in their tissues. The cysticercus cellulosus in the tissues of the pig (so-called "measly pork") is the larval state of the tenia solium, and finds in the human intestine a bed for its further development and propagation of species. We are not unfamiliar with the fact that the trichini spiralis infects the muscular tissues of man, producing a painful and sometimes fatal disease—trichiniasis. We can not deny the possibility of an infection of the human body by low forms of vegetable life; call them fungi, bacteria, micrococci, mycrozymes, spiralæ, or what you will. Animal germs are known to traverse the blood vessels or lymph channels and find a nidus in the most delicate and important tissues. We conclude then that the germ theory of disease remains to be proven, but that it has a weight of evidence and plausibility in its behalf worthy of our attention, and should be held for the present as correct until other-

wise proven, and the true etiological factor of so-called zymotic diseases demonstrated. There is at least safety in this to our patients; we will not attempt to jugulate the disease; we will eschew the "nimia crura medici," unless, peradventure, some of you discover the necessary germicides, and use all our efforts to help our patients to outlive the germs which ride the rounds in their blood corpuscles and feed upon their protoplasm.

Progressive medicine has in recent years taken the disease we call pneumonia from the class of local diseases and placed it in the list of essential and therefore infectious fevers. I know it still holds its place in nosological catalogues, and is spoken of by most medical men as an inflammation. I refer to lobar pneumonia; the croupous pneumonia of Continental Europe having no reference to the catarrhal form, or the pulmonary inflammations resulting from embolic processes. If in this disease we have an essential fever with pulmonary localizations, it behooves us, as medical men, to grasp the essential nature of it and entertain just views of its pathology; for we have much to do with it as practitioners of medicine. The doctrine to which I refer is formulated thus (by "Jurgensen in Ziemssen's Cyclopædia," Vol. V, p. 144): "Croupous pneumonia is a constitutional disease, and is not dependent upon a local cause. The pulmonary inflammation is merely the chief symptom, and the morbid phenomena are not due to the local affection. The hypothesis of a morbific cause is indispensable. Croupous pneumonia belongs to the class of infectious diseases."

These would have been very startling propositions when I was first a student of medicine, and indeed for many years since; but now I think the weight of evidence in their favor is convincing, and am therefore prepared to accept them. This is not exclusively a German view of the case. Austin Flint is an American teacher of this doctrine, not to mention others of European and American fame. And to show that it is not a doctrine of very recent date, I may state that Dr. William H. Draper, in 1866, read a paper to the Academy of Medicine of New York, on the treatment of pneumonia, in which he maintained that "pulmonary lesion is a sequence, in point of time, of the pyrexia; that it represents a conservative process, by

which a *materies morbi* is eliminated from the circulation, and that there is presumptive evidence of a specific poison in the blood of persons suffering from this disease. These considerations certainly lend support to the theory that pneumonia is something more than a local disease, and is rather an essential fever, having a characteristic lesion like small-pox or typhoid fever." (Bul. N. Y. Acad. Med., Vol. II, 1866).

Most of us, it is true, have been treating pneumonia as if it were a pulmonic fever for several years, but many have not yet left off regarding it a typical phlegmasia, and over it the bleeders and the anti-bleeders have had their most heated contests. We will give some of the reasons for the faith that is in us as regards pulmonic fever. We think this name, given by Flint ("Medical Record," Vol. XII, No. 28, p. 443), meets present pathological requirements, and shall use it. The common people have long called the disease "lung fever," and their crude conceptions were in their day "wiser than we had builded."

1st. Acute pulmonic fever is never developed by any agencies of an extrinsic character acting upon the lung. Contusions, however severe, penetrating wounds, nor foreign bodies in the air passages ever lead to it. In states of the air passages which we call catarrhal, local effects in certain lobules may occur, but they fail to meet the characteristics of the local lesion in lung fever; croupous pneumonia never results from a bronchitic process. Jurgensen is not too strong in his assertion that "croupous pneumonia can no more be produced by the ordinary excitants of inflammation than can the distinctive intestinal lesions of typhoid fever."

A cause for pulmonic fever can not be demonstrated, but the same is predicable of malarial fevers, which hold undisputed position as essential fevers. At different periods and places this disease has prevailed epidemically. I need only to call to your remembrance the prevalence and excessive fatality of pulmonic fever in Northwest Arkansas, and in fact all over the Union in the winter and spring of 1875. How often does the history of the disease report it as prevailing epidemically in a so-called typhoid form? Now we know that all diseases which prevail epidemically are constitutional or essential, and there-

fore infectious. Probably no other febrile disease is initiated by so declared a chill or rigor as pneumonic fever, unless it be a malarial fever. Within twenty-four hours or less after this rigor, the temperature and pulse rate will indicate as high a grade of pyrexia as at any time in the progress of the disease; but at this time the local pulmonary lesion is often hardly perceptible to physical examination, and the frequency of respiration, though increased, never at this stage becomes as frequent as in the latter part of the disease. If the febrile symptoms were only symptomatic of a local lung inflammation, these pyrexial symptoms should increase or diminish as the pulmonary exudation is greater or less, but such is not the case. In all cases which recover, when secondary lesions have not occurred, a rapid and characteristic defervescence occurs, while the local pulmonary exudation remains unabated, as clearly shown by physical examination and the continued frequency of respiration. In fact it would seem that in these cases the system had been relieved of *materies morbi* by this croupous deposit in the lung. Thus we see that during the whole course of this fever there is no constant relation between the local and the febrile symptoms, nor dependence of the one upon the other. We find, in the prodromal stage, fever without commensurate local affection, and in the regressive stage, more or less extensive local affection without fever. Hence are we not justified in concluding that no causal relation exists between them?

Pulmonic fever runs a definite course, while no local lesion presents a career so definitely limited in point of time. We are at once ready to admit that typhoid fever is a self-limited disease, and that it may terminate in recovery in the third or fourth week, or longer. Why then may not the same law apply to pulmonic fever if there be a defervescence in all uncomplicated cases from the sixth to the ninth day? The fact is, the medical mind has been held subject to the idea that pneumonia was the most typical of the phlegmasiæ; was the representative disease of its nosological class. I can well recollect in the earlier years of my practice what faith I had in the resolvent treatment of pneumonia, the classical treatment by tart. emetic, calomel and opium. I saw my patients go on in the disease

under this treatment from seven to nine or ten days, when at one of my morning calls, I would find the pulse near the normal, the skin cool and soft (we had no clinical thermometers then), and my patient in all respects much better, and looking at his gums and taking a sniff at his breath (which in view of ptyalism I have been doing at each visit for the last four or five days) I would get the mercurial fetor and invariably be thankful for the great power of mercury in pneumonia. *Now* I know that the defervescence was not because of the mercury, but it was the natural termination of a disease process—the organism having rid itself of one *materies morbi* by the copious pulmonary exudation, permitted another—the mercury—to assert itself.

Pulmonic fever assimilates the essential fevers, and differs from the local inflammations in that where its career is ended there is no tendency to a relapse. Dr. Flint says, "in a large number of recorded cases, I have not a single case of relapse noted, and I can not recall an instance in my unrecorded experience." The forms of disease called chronic pneumonia or fibroid phthisis are declared to be anatomically distinct from pulmonic fever; and the German doctrine, so stoutly upheld by Neimeyer, that phthisis proper is a sequel of acute pneumonia, is not supported by clinical observation, and the pathology of this disease, so lucidly set forth by Lænnec near half a century ago, somewhat modified, again holds sway as the true doctrine of phthisis pulmonalis.

The influence of certain remedies upon pulmonic fever furnishes strong ground for the doctrine we are attempting to elaborate. And here we find the physicians of the present day more nearly in accord, for no one treats the disease antiphlogistically, according to the old acceptation of that term, and many who regard the disease as a local pulmonary inflammation are found giving their patients food, quinine, carb. ammonia, etc. It is not our purpose to enter into the discussion of the therapeutics of this disease, only so far as it hinges upon its essential nature. It is now an admitted proposition that quinine in large doses often favorably modifies the disease. Whatever benefit results from the use of this remedy is not

manifested upon the local lesion, but over the pyrexia, thus tending to sustain the doctrine of its essential febrile nature. Jurgensen, Liebermeister and others assert that clinical experience teaches the reduction of high temperature of the body by cold baths and other antipyretics, methods which, in typhoid and pulmonic fevers, lessen the severity and fatality of those diseases. If we accept this conclusion, we must regard it as further evidence of the essential nature of pulmonic fever. Dismissing the subject of lung fever, we pass to a very brief notice of the antipyretic treatment of fever.

The subject of fever has been of almost hourly study for the last two thousand years, and still remains shrouded in mystery. We are of opinion that a satisfactory explanation of fever yet remains to be given. There are two hypotheses prevalent in medical minds at this day. First, that fever results from a disorder of the nervous centres, the influence of these centres restraining or controlling the liberation of heat at the surface of the body, so that by retention the temperature rises, and that this increased temperature so produced acts upon the living substances of the body so as to disorder its nutrition. The other thing is that fever originates in the tissues; that it is from first to last a disorder of protoplasm, and all systemic disturbances are secondary. No odds what our theories may be concerning the pathogeny of this morbid entity, we must at once admit that prolonged increase of temperature is one of its most prominent manifestations, and that a reversion to health never occurs until the body heat becomes normal. That the nervous system has influence upon temperature, we are compelled to admit, for we often see it fall below the normal in paralyzed limbs; that it may be increased by nervous influence is equally evident, as is clearly shown by the action or influence of vasomotor nerves when paretic or paralyzed. This is clearly a secondary influence, as the increased quantity of blood in the paretic vessels begets an increase in the vital chemistry of the part; hence an increased elimination of heat. We must regard the chief source of animal heat to flow from the interchange between the vitalized circulating fluids of the animal body and the solid tissues, whether that interchange be in the way of

progressive or regressive metamorphosis. Its origin, we think, is clearly shown to flow from the vital chemistry of the animal.

This exchange of material between the blood and the tissues underlies all the morbid changes, tissue degeneration, and blood contamination, which sap the vigor of the organism and render it unfit for the continuance of such chemical changes as are consistent with its integrity, and the machinery stands still. The elimination of excessive animal heat is then the most prominent phenomenon (though many others accompany), and its height and prolongation are a measure of the injury being inflicted on the organism. This we regard as true, except in such febrile disease as localize at or about the thermic centres of the nervous system, and thus inhibits thermogenesis. An instance of such disease is cerebro-spinal fever. If then the damage to the tissues and the poisoning of the blood in the greater number of our essential fevers are proportionate to the height and continuance of the temperature, we are led to conclude that in so far as we can control that excessive heat, by so much do we control the tissue metamorphosis which develops it, and thus hold in check the damaging and destroying element of pyrexia. It is vain to talk about "correcting the secretion" and all that, when the source of all secretion is freighted with effete and foreign material, and that elimination from the blood which becomes fixed in the tissues (nutrition), and that other elimination which is thrown out upon membranous surfaces (secretion), are equally working under the influence of a morbid entity, which, so far as we know, must work out its results; must live its allotted time. Shall we therefore stand by and do nothing? In cases of such grade, and in such subjects as our knowledge of past observations teaches us will terminate favorably—yes. But when the case is exceeding these safe limits in its manifestations, we should endeavor "to throw on the brakes," and surely this can in no way be so effectually done as by the use of such means as reduce and maintain a reduced temperature, thus retarding regressive metamorphosis and secondary blood contaminations with all their attendant ills. Then the antipyretic treatment should have our serious consideration as the most available means in our hands for the safe transit of our patient

across the strong sea of an essential fever. It is unnecessary to dwell upon the remedies and modes of their administration for the accomplishment of these ends. The teaching of Liebermeister and Jurgensen on this subject are familiar to all who are conversant with modern medical literature. I desire only to say in this connection, that in the administration of quinine in large doses for the purpose, the mode advised by Liebermeister I regard from experience as the best. That is, that the quantity of the remedy intended to be given for the immediate purpose should be given in two or three divided doses of from seven to ten or fifteen grains every half hour, and preferably as to time, in the early part of the night, say from 7 to 8 o'clock. Especially is it not necessary to give this remedy in doses of from three to five grains every few hours for antipyretic purposes. I do not speak now of malarial fevers in which this remedy is specific; in fact, the effect does not follow the use of the remedy when so administered as promptly as when given in a few large doses, as advised by Liebermeister. I am aware that distinguished American authority (Da Costa, A. S. Davis and others) advise great caution in this treatment, and even speak discouragingly of it; but Flint, Loomis, Clarke, and many equally eminent men are its advocates. I believe that as long as the true etiological factor in the genesis of the infectious fevers remains unknown, and we continue unable to supply an antidote or specific, so long will the antipyretic treatment be the best we can employ in this class of diseases. It may not be amiss to mention that quinine may have other beneficial effects in this class of diseases, from its known antiseptic action in the blood, and tendency to arrest the migration of white blood corpuscles. We have no time, and would but weary your patience were we to discourse of the cold bath, digitalis, veratrum, aconite, etc., all of which are of use as antipyretics in suitable cases, or of salicylic acid, in this connection; we will refer to this last remedy later. Probably the systematic use of cold baths is among the most useful means to accomplish the end in view. Any mode by which the abstraction of heat from the body may be accomplished is a legitimate and useful procedure, i. e., unless counterbalancing injuries are

inflicted at the same time. Quinine and cold baths are therefore safest and most useful; the special cardiac sedatives, such as digitalis, aconite and veratrum, may be employed in exceptional cases. To be most effective, this treatment should be accompanied by dietetic management and hygienic surroundings of a proper kind. Mental and bodily quietude and a fair supply of nourishment are important in all cases. I give some statistics: In the hospital at Kiel, from the year 1850 to 1861, under varying treatment, there were 51 deaths among 330 typhoid fever patients, that is, near 15 5-11 per cent. During the years from 1863 to 1866, under a systematic antipyretic treatment, there were 5 deaths among 160 patients, that is, about $3\frac{1}{8}$ per cent. The treatment in the hospital at Basle, until the year 1866, was of the ordinary expectant kind; since 1866 the antipyretic method has been fully employed. Up to 1866 the percentage of mortality from typhoid fever was 27 3-10; (?) since that time, under the quinine and cold water treatment, it has fallen to 8 2-10 per cent. The statistics from Kiel were given by Jurgensen; those for Basle by Liebermeister.

In the hospital at Kiel Jurgensen reports that in 400 cases of pulmonic fever (croupous pneumonia) treated in the ordinary way, compared with 400 treated antipyretically, show a diminution of mortality in favor of the latter method of one-half. (Ziemssen's Cyc., Vol. V, p. 178). It is unnecessary to multiply statistics on this subject; they can be adduced from other European as well as American authorities, and the practice has become very general. There are some contraïndications which exclude this mode of treatment—great constitutional feebleness and old age. Also, if it has been pursued in certain diseases to which it is applicable, such as typhoid and pulmonary fevers (I allude mainly to the cold bath), intestinal hæmorrhage, or a very weak heart, especially if the first sound be lost, admonish us to stop the treatment; and in most cases where the cold baths are employed a stimulant should be given either just before or during the employment of each bath. I have not gone into the details of the antipyretic treatment; this information has now become accessible to all; but I have desired to press the subject

on the attention of the Society, for I regard it as a point in the progress of medicine not to be ignored by any one who desires to keep even pace with the advances of our art.

Among the many new remedies recently brought into requisition, a few of them seem to present such evidences of usefulness as should claim our attention. Of these are salicylic acid and its salts, also jaborandi. Salicylic acid in its effects upon the human body has some resemblance to quinine. It is beneficial in malarial poisoning, though much less potent than quinine; like it, it is a very powerful antipyretic and antiseptic, which can be introduced with safety into the body in large quantities. Even the ringing in the ears and slight deafness, so characteristic of cinchonism, may be produced by salicylic acid. A complete agreement between its effects and those of quinine does not exist. This we stated when speaking of malarial fever; but rheumatism is a disease in which quinine avails but little, while the acid is very potent. There being no chemical similarity between the two remedies, we should not expect a similarity of action on more than general points. That such general resemblance exists is manifest from the known antipyretic properties of both substances.

Salicylic acid and its salts have attained a reputation as being among our best remedies in the infections as a germicide as well as powerful antipyretic. It is stated by L. Letzerich that the organisms obtained from the urine of children suffering from diphtheria (consisting of bacteria, masses of protoplasm and micrococci) placed in a close vessel containing 0.35 of acid to one part of spirit and fifty-nine of water, when examined after an interval of five months were all found dead at the bottom of the vessel. A few drops of a weak solution brought in contact with these organisms arrested their movements gradually; a stronger solution arrested them suddenly. He treated seven cases of diphtheritis with gargles of salicylic acid, all successfully. Wagner has also used it with great success in an epidemic of diphtheria. Frontheim has used it prophylactically as to this disease, he claims, with great success. A report on this remedy by Dr. Gerrish to the Maine Medical Association, reciting the experience of forty members of that body, does not

attribute any special value to its internal use in diphtheria, but gives it praise as a very efficient disinfectant and deodorizer for local use. In cases characterized by hyperpyrexia the remedy may be useful from its admitted antipyretic effect.

Salicylic acid and its salts have been used chiefly by German practitioners, and it is chiefly from these sources that our information as to its effect in this disease has been derived. Dr. Reiss, of Berlin, states that in a series of 260 cases of typhoid fever he used this remedy in doses as large as four scruples. He found that often after the first dose, and usually after the second, the temperature fell below the normal, and remained so for twenty-four hours. In these cases only one daily dose of four scruples was given, and it was found that eight or ten doses were sufficient. The result was that after the fourteenth day of the fever there was no abnormal temperature. Dr. Reiss found that this was the result in the majority of the 260 cases which he treated. It must be confessed that this was a remarkable result in so large a series of cases; and we must consider that the remedy had remarkable efficiency in this disease, or that the doctor had a large number of very light and amiable cases.

These remedies have been reported upon favorably in typhoid fever on our continent, but as yet observations in this country are few. It may be safely concluded that the remedy is one worthy our attention and trial in any of the infectious fevers, more especially such as are characterized by hyperpyrexia. I have used the salicylate of soda in grave pyrexial states, with or without evidence of broncho-pneumonia, following measles in an epidemic of that disease prevalent in my locality last spring, and in some cases it seemed to give better results than quinia, in others not. Under similar circumstances, from my experience then, I should resort to it again. I administered it for its supposed antiseptic and antipyretic effects. In the same family where four children, each having passed the eruptive stage of measles, remained very ill with high temperatures, with more or less pulmonary embarrassment, I gave to one salicylate of soda, each dose containing ten grains of the acid, every three hours until six doses were taken; to another quinine seven and

one-half grains every half hour until three doses were taken. In both instances the temperature was reduced *lower* by the salicylic salt, but *remained down longer* in cases in which quinine was given. From a series of trials of this kind, I am led to conclude that salicylic acid will give more extensive downward excursions of temperature in a given time than quinine, but its effect is more evanescent. Besides, in cases thus observed, I think the general aspect of the case (the *ensemble* of symptoms) was more pleasant and agreeable to behold in the cases treated with quinine. Those under full antipyretic doses of the acid exhibited a degree of cyanosis and depression with small and weak pulse, altogether more disagreeable to behold than the other series of cases. But it is in acute rheumatism that the acid and its salts exert effects which we must regard as near specific, and if no other uses are ever found for them, they must still stand before any other mode of treatment yet employed in this very common and painful disease; a disease which for years had been relegated to patience and flannel; of which a distinguished medical man, less than forty years ago, when asked for the best treatment, replied "*six weeks.*" Such a disease is now relieved in from two days to one week in the vast majority of cases by salicylic acid and its salts. The records of our profession for the last two years are full of evidence of the virtues of this acid in rheumatic fever. I will refer to only one trial of the remedy. Dr. Brown, of the Boston City Hospital, has furnished a statement of one hundred and nine cases treated in that institution with the remedy. The average amount of acid taken to produce relief was one hundred and fifty-four grains. The quantity varied from thirty to two hundred and ten grains. The average of the time at which relief was effected was 1.46 days, varying from three hours to four days. The average time to complete cessation of pain was 2.85 days, varying from twelve hours to fifteen days. The average time during which the acid was taken by each patient was 6.22 days, varying from one to thirty-one days. The amount required to produce complete relief from pain and mobility of the joints was 531.22 grains to each patient; in each attack it was 343.73 grains.

So far as I have used the acid in acute rheumatism, it has fully met my expectations. It must be said that it is not so efficient in subacute cases, and has little or no power in the chronic forms. We have also to regret that the peri and endocardial lesions are not prevented by it. Yet enough is known to make it one of the most important agents lately added to our therapeutic armamentarium. To Dr. Butt, of Basle, Germany, we are indebted for the remedy. The acid is only slightly soluble in water; the dose, from fifteen to twenty grains, is therefore bulky and inconvenient, besides in substance it is irritant to the fauces and stomach. Its alkaline salts are more soluble, less offensive to the taste and mucous surfaces, fully as potent remedially, and therefore the form in which it should be dispensed. The following is a very eligible formula:

℞. Acid salicylic,
Sodæ carb., āā ℈ii;
Syr. aurantii, f ℥i;
Syr. simp.;
Aqua pura, āā f ℥ii.

Sig. Dose one ounce every two, three or four hours for an adult.

I regard the acid less potent as a local disinfectant than the carbolic, but of much more general application as an internal remedy. Its place in the pharmacopœia is now an assured fact, and its use may extend as trial is made with it in different diseases. It may be remarked that its congener (salicin) is well reported by some good investigators as equally useful in rheumatism, which, if found correct, will further extend our resources in that heretofore very intractable disease. I refrain from attempting a theory as to the *modus operandi* of salicylic acid and its salts. Some have attempted an explanation of the role it performs in the system, but as yet nothing worthy of confidence has been put forth. Like many others of our useful remedies, its employment must be empirical, and our skill in the use of it belongs more to the art than the science of therapeutics.

Jaborandi has in recent years been introduced as a remedy, and from all that we are able to learn of its effects it will con-

tinue to hold a place in our pharmacopœia. The alkaloid has been educed from the leaves of jaborandi, and experiments with it hypodermically go to prove that it is capable of producing all the effects of the leaves themselves. The most noticeable effects of this remedy are profuse perspiration and copious salivation. The leaves are infused in one drachm to four ounces of water, of which one-third may be given every half hour until the desired effect is produced, or the pilocarpia may be used subcutaneously in doses of from one-fourth to one-half grain for the same purpose. Sometimes when the infusion is used, it may produce nausea and vomiting with a degree of intestinal irritation. But it is said if the dregs, which it has been advised to give stirred up in the infusion, be all strained off, these effects are not so often produced. A degree of cardiac debility attends or follows the very copious cutaneous and salivary flow which it almost invariably produces. "A drug that is capable of drawing, upon an average, one-sixth of the water of the blood, might be supposed efficacious in causing the absorption of effused fluids, preferably to hot baths with their subsequent packing, and is probably destined to occupy an eminent position among the sudorifics, sialagogues, and moderators of febrile action. Even when it is difficult to produce sweating by the ordinary means, the administration of the jaborandi has been followed by abundant perspiration." This certainly would have been a God-send to our ancient Thompsonian friends had it been brought to light in their day.

It has been used beneficially in Bright's disease attended with dropsy ("Tyson Amer. Jour. Med. Sciences," July 11, p. 132), in pleuritic effusions, influenzas, cardiac dropsy, rheumatism, febrile catarrhs, uræmia, unilateral sweatings, etc. From the known effects of the drug we can well suppose that it will come into very general use in a variety of diseases in which relaxation of blood vessels, increase of absorptive processes and eliminant effects are desired. I claim no personal knowledge of the use of the remedy, having administered it only once in a case of advanced granular degeneration of the kidneys. The stomach was very intolerant, and the dose was only partially retained. No diaphoresis or insalivation followed, but a dysenteric diar-

rhœa of very intractable character. The gastro-intestinal symptoms had been very prominent before, but the dose certainly increased them. I should be loth to give the remedy unless the gastro-intestinal surfaces were free from disease.

I think, as before stated, that in jaborandi we have a useful and very powerful remedy in many diseases, which we shall come more to appreciate and understand when its full effects in health and disease are more fully comprehended. For the present the remedy is still *sub judice*, and I would recommend it to your attention for experimentation.

Here I desire, before closing this very hastily-prepared and imperfect report, to enter a mild protest against some pretended points in medical progress; more especially do I refer to the great rage for the gilded pharmaceutics of the day in the shape of sugar-coated pills and granules, the myriads of elixirs, and the so-called chemical compounds of proximate principles; all of them heralded on more pages of cover in our medical journals than are devoted to the true purposes of their publication. These very ingenious pharmacians endeavor to compound formulæ to meet as many of the demands of the prescriber as possible, all arranged in a very inviting shape to the eye and taste. This host of medical stuff holds a sort of quasi respectability; a medium position between the nostrums of the day and the regular prescription.

I do not claim that there is nothing useful derived from this source, but I am convinced that a great deal of it is valueless, and often disappoints the hopes of the physician. Besides, the inducement to physicians to use these forms is so great; they are already prepared; very little thought is required, so that an invitation to indolence and slothfulness in prescribing is brought about by them, and the physician very readily becomes a "machine-doctor" in the full acceptation of the term. Many, in fact the great majority, of the formulæ of remedies best adapted to the treatment of the ordinary acute ailments of every-day practice are not capable of being rolled in sugar, coated with gelatine, or preserved for any great length of time in a useful form. And those who most frequently resort to the tinsel pharmaceutics of the day, do so generally from a mental

indolence and indisposition to elicit from their mental storehouse that higher eclecticism in prescribing which should be the aim of every hard-working physician.

These pharmaceutical gewgaws have recently rapidly accumulated until the market is flooded with them, and the doctor's work is made so easy by the pharmacist's prescribing for him, that if this thing continues (only a little pathology and semiology having been attained by these very energetic pharmacians), our position will be only to give, by a wise look and dignified nod, assent to the formulæ of disease and remedy, and turn over the real work to the apothecary.

Some of the animal proximate principles, much vaunted for a time, are little used, and in fact regarded as medicinally inert by very competent authority. Among these I may only mention pepsin. But then since we have found this out, our friends furnish us lactopeptine, which they say is of *undoubted* virtue. So far as I have tried it I regard *it* inert also. But these gentlemen are presenting us substances of definite chemical composition, they say, actually representing the very nearest animalized principles of our bodies—compounds of *protagon*—why not protoplasm? and thus set aside all the vital chemistry of the animal body, enabling us to do without any digestion as such, any nutrition as such, and handing us, made to order and enveloped in beautiful and savory shape, the very tissues of our body.

This is an extreme view of the case, I admit, but it is, I think, a fair exposition of the influence and tendency such pharmacy has upon our profession and its practice.

But enough has been said upon this subject. The time would be too long, and the results not equivalent, that would be consumed in endeavoring to select the little of value from the mass of worthless stuff which floods the medical markets of our country from this source. It is calculated to dwarf and damage the working capacity of our profession, to diminish our mental resources as physicians, and inures to the injury of our clientele.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

OFFICE SURGEON-GENERAL U.S.M.H.S.,
WASHINGTON, Dec. 18, 1878.

Bulletin of the Public Health, issued by the Surgeon-General United States Marine Hospital Service under the National Quarantine Act of 1878, for the week ending December 14, 1878:

During the week the only deaths of yellow fever reported were 2 at Memphis on the 10th and 12th inst.

Burlington, Vt.—Month ended November 25th, deaths from all causes 22; an annual ratio of 16.5 to each 1,000 of the population; 4 deaths from diphtheria.

Massachusetts.—For the week ended December 7th. In 16 cities with an estimated aggregate population of 742,000 there were 274 deaths; an average annual rate of 19.25. The local death rate ranged from 0 at Pittsfield (population 12,600) and 10 to 12 at Chelsea, Newberryport, Gloucester, Cambridge, and Worcester to 21.12 at Boston, 26.60 at Salem, and 42 at Fall river. In the latter city the death rate from the principal zymotic diseases was nearly 25 per 1,000 of the population. The average death rate from these diseases in the 16 cities was 4.

Boston.—Week ended December 14th, total deaths 137; annual ratio 22. Seventeen cases of scarlet fever, 3 deaths; 15 cases of diphtheria, 10 deaths.

Providence, R. I.—Month of November total deaths 165; annual rate 19.80. Deaths from phthisis 29, from pneumonia 12, from diphtheria 32, from scarlet fever 2.

New York City.—Week ended December 14th, deaths from all causes 495; annual rate 23.6. Phthisis caused 24 deaths, pneumonia 51, bronchitis 30, scarlet fever 36, diphtheria 21, enteric fever 5.

Hudson County, N. Y., including Jersey City and Hoboken.—In the month of November, in an estimated population of 180,000 there were 294 deaths, 42 being from diphtheria and croup, 12 from scarlet fever, 3 from enteric, and 5 from "malarial" fever, 39 from phthisis, 28 from pneumonia; annual rate 20.

Brooklyn.—Week ended December 14th, total deaths 184; rate 17.4. Seventy one cases of scarlet fever, 7 deaths; 42 cases of diphtheria, 7 deaths; 20 deaths from phthisis.

Philadelphia.—Two weeks ended December 14th, total deaths 601; annual rate 17.6. Thirty-two deaths from diphtheria (minors), 24 from scarlet fever.

Baltimore.—Week ended December 14th, total deaths 95; annual rate 14. From scarlet fever 4 deaths, from enteric 3, from diphtheria 3, from phthisis 17.

Cleveland.—Week ended December 14th, total deaths 47; annual rate 15. Four cases of scarlet fever, 2 deaths; 10 cases of diphtheria, 8 deaths.

Cincinnati.—In the four weeks ended December 14th, the deaths from all causes were respectively 96, 96, 111, and 83. From scarlet fever 16, 18, 26, and 17; phthisis 12, 17, 7, and 9; pneumonia and bronchitis 5, 9, 9, and 4. Annual rate 18, 18, 20, and 15. During 1878 1 death from small-pox.

Milwaukee.—Week ended December 7th, 28 deaths; ratio 12. Sixteen cases of diphtheria, 2 deaths.

St. Paul.—In the 3 months ended November 30th there were 120 deaths; annual rate 13. In June, July, and August deaths numbered 137; an annual ratio of 15.

St. Louis.—For the two weeks ended December 1st there were 221 deaths; an annual ratio of 11.5 in the estimated population. Scarlet fever caused two deaths, diphtheria 16, enteric fever 6, phthisis 28, pneumonia 21.

Norfolk.—In November 43 deaths, 9 being from phthisis, 5 from pneumonia, 11 from zymotic disease. Annual death rate 22.4.

Charleston.—Week ended December 7th, 26 deaths; annual rate 26.

Savannah.—Week ended December 13th, 25 deaths; annual rate 46.4.

New Orleans.—For the three weeks preceding December 8th the total deaths numbered respectively 104, 100, and 88. From yellow fever 14, 4, 2; "malarial" fever 10, 7, 5; phthisis 7, 14, 9; pneumonia 7, 9, 6.

Havana.—Week ended December 16th, 9 deaths from yellow fever, 5 from small-pox.

Rio de Janeiro.—Week ended November 9th, 243 deaths, small-pox causing 65. Of 1,321 deaths in October 453 resulted from this disease.

Great Britain.—Week ended November 23d, in 23 cities having an estimated population of 8,374,000 there were 3,976 deaths; an average rate of 25 per 1,000, ranging from 14 at Portsmouth and

17 at Brighton to 24 at Birmingham, 26 at Manchester, and 29 at Liverpool. The percentage of deaths from the principal preventable diseases varied from less than 1 at Portsmouth, Brighton, Plymouth, and Bristol, to 5 at Dublin and 6.4 at Liverpool.

London.—Week ended November 23d, total deaths numbered 1,574; an annual ratio of 22.6 against 20.2, 23.2, 24.3 in the three preceding weeks. Bronchitis caused 207 deaths, pneumonia 107, scarlet fever 54, diphtheria 11, small-pox 7; there were 149 cases of the latter disease in the hospitals on November 23d. In inner London the death rate was 22.6, in the outer suburban ring 17.9.

Dublin.—Week ended November 23d, deaths 213; annual rate 35. Nineteen deaths from phthisis, 46 from bronchitis, 6 from scarlet fever, 11 from small-pox; 69 cases of the latter disease in the hospitals.

At Cork the death rate for the week was 38, at Derry 17, at Belfast 32. In the latter city 13 per cent. of all the deaths in October were caused by scarlet fever.

In Galway the death rate for the week was 42. Small-pox is still prevalent, and caused 32 per cent. of all the deaths in the preceding month.

German Empire.—In 148 cities and towns of more than 15,000 inhabitants and an aggregate population of 7,451,536, during the week ended November 9th there were 3,336 deaths; an annual ratio of 23.3 against 22.7 in the preceding week. Phthisis caused 424 deaths, pneumonia 260, diphtheria 180, scarlet fever 117 deaths. 32.5 per cent. of all the deaths were among children less than 1 year of age. But 1 death in the empire from small-pox (at Breslau).

Berlin.—In the week ended November 9th 465 deaths; annual rate of 24.5. Phthisis caused 56 deaths, diphtheria 36, scarlet fever 23.

For the week ended November 9th the death rate at Breslau was 24, at Munich 33.7, at Dresden 21.8, at Leipzic 17.4, at Hamburg 22.8, at Cologne 26.6, at Frankfort 15.7, at Strasburg 26.3.

Vienna.—Week ended November 9th, deaths from all causes 378; annual ratio 27. Eighty-eight deaths from phthisis, 42 from pneumonia, 29 from diphtheria, 5 from scarlet fever, 6 from small-pox.

Paris.—Week ended November 9th, 870 deaths, 163 being from phthisis, 100 from pneumonia, 25 from diphtheria, 20 from enteric fever. Annual rate 22.8.

Tangiers, Africa.—Cholera is disappearing from the interior cities of Morocco, where it has prevailed for some months with great severity. At Casablanca, in the week ended October 12th, there were 53 deaths from cholera and 27 from small-pox. In the week ended October 19th, cholera caused 5 deaths and small-pox 17.

The latest weekly returns from the following cities show the annual average death rate: At Madras 51.4, Odessa 46.5, Buda Perth 41, Calcutta 38, Alexandria 45, Cracow 38, St. Petersburg 32, Venice 31, Warsaw 30, Lisbon 29, Naples 22, Rome 21, Copenhagen 17, Stockholm 17.

JOHN M. WOODWORTH,
Surg.-Gen. U. S. Marine Hospital Service.

NOTE.—As soon after January 1, 1879, as practicable the "Bulletin" will be printed in tabular form, and extended as far as useful and practical. Health officers and registers of vital statistics who have been requested to furnish information, will aid in imparting to it the practical value it is desired it should possess by forwarding their mortality returns as promptly as possible.

BRIDGEPORT, KY., December 9, 1878.

Dr. E. S. Gaillard:

Dear Sir,—Through your valuable Journal I desire to present to the profession my plan of making a surgeon's needle and the manner of using it. I have, in making post mortem examinations and closing the incisions, had great annoyance in pricking my fingers, giving rise to painful and sometimes dangerous inflammations. I have my needles made as those now used, except that each at the end (instead of an eye being drilled therein) has a thread cut on it which screws into a handle, giving the needle then the appearance of a shoemaker's awl. Instead of an eye I have an open slot cut on the side of the needle near the point the size the eye should be, which opens on the side of it up toward the handle. In using the needle I grasp the awl-handle, into which has been fastened the proper-sized needle, thrust it through at the desired point, then bring the thread, wire, or catgut over the side of it until it engages the slot; withdraw the needle which brings (instead of carries) the thread through the integument. The advantages are that the needle is more easily manipulated, the danger of pricking less. The needle, instead of being passed through the wound its entire length, only requires

to be passed half an inch. The threading of the needle is thus entirely removed, and many other conveniences are found in it which will readily suggest itself to the surgeon. I hope others will be as much pleased with it as I am.

Yours truly, U. V. WILLIAMS, M. D.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

The Functions of the Brain. By DAVID FERRIER, M. D., F. R. S., etc., New York: G. P. Putnam's Sons. 1876.

Although this systematic exposition of the bearings of the results of recent experimentation on the functions of the brain has been before the American medical public for two whole years, it does not appear to have attracted as much attention and thoughtful consideration as the great importance of the subject would have led us to anticipate. The original experiments of Fritsch and Hitzig, in 1870, followed by those of Dr. Ferrier, in England, and those of a committee of the Society of Neurology and Electrology of New York, had, indeed, commanded universal attention, and had given rise to no little controversy in respect of the significance of the phenomena which were thus brought to light. Notwithstanding the well-known objections of Dupuy, Hermann, and some other respectable physiologists to the conclusions drawn by the above-named investigators as to the existence and localization of motor centres in the cortex cerebri, on the alleged ground that the observed phenomena were due to extra-polar diffusion of the electrical stimulus and consequent irritation of the basal ganglia, it may now be considered as definitely settled that these objections are proved to be without value, and that on the whole the evidence in favor of the existence of such local centres of "combined movements which have all the appearance of purposive acts" is now tolerably complete. This, however, had been made apparent by Ferrier and others before the publication of the treatise now under consideration,

in which Dr. Ferrier has given a systematic exposition of the functions of the cerebro-spinal system in general, "with the view more especially of pointing out the mutual relations between the higher and lower nerve centres."

Having indicated, in a few introductory lines, the special difficulties which embarrassed the experimental investigator of the functions of the brain, arising in part from the mutual dependence of all its parts, so that an injury of any one may entail such general perturbation as to make it difficult to trace the connection between the lesion and the symptoms, and yet more from "the differences as regards the relative independence or subordination of the lower to the higher centres, according as we ascend or descend the animal scale," he yet shows that some of these difficulties will be found, on careful examination, to be more apparent than real, and that "experiments on animals, under conditions selected and varied at the will of the experimenter, are alone capable of furnishing precise data for sound inductions as to the functions of the brain and its various parts; the experiments performed for us by nature, in the form of diseased conditions, being rarely limited, or free from such complications as render analysis and the discovery of cause and effect extremely difficult, and in many cases practicably impossible." And yet that this last field of observation has not proved entirely barren has lately been shown by Charcot in his "Leçons sur les Localisations dans les Maladies du Cerveau," and yet more conclusively in a paper by himself and M. Pitres, of which an able resumé was contributed to the "London Medical Record" by Dr. Ferrier, who finds in their pathological observations a remarkable confirmation of the results of experimentation with monkeys. Indeed it is acknowledged by Dr. Ferrier in the graceful dedication of his book to Dr. Hughlings Jackson, that many of the more important results of recent experimental investigations into the functions of the cerebral hemispheres "had been anticipated by that eminent neuropathologist from a clinical and pathological standpoint."

Passing by the three first chapters of the book, which contain a short but lucid sketch of the structure and functions of the spinal cord and medulla oblongata as now generally accepted,

we find in chapter iv a general view of the functions of the mesencephalon and cerebellum, as introductory to a more detailed exposition of the special rôle of each of the ganglia included under that designation. A careful perusal of this chapter can scarcely fail to convince the unprejudiced reader of the utter fallacy of the conclusions drawn by Longet, Vulpian, Carpenter, Dalton, and Flint, as to the manifestations of sensibility and power of will by animals deprived of the cerebral hemispheres. He shows by reference to the very experiments cited by these physiologists that "in the absence of the cerebral hemispheres the lower centres of themselves are incapable of originating active manifestations of any kind. An animal with a brain intact exhibits a varied spontaneity of action, not, at least immediately, conditioned by present impressions on its organs of sense; when the hemispheres are removed all the actions of the animal become the immediate and necessary response to the form and intensity of the stimulus communicated to its afferent nerves. Without such excitation from without the animal remains motionless and inert. It is true that some of the phenomena which have been described would seem to be opposed to this view, but they are so in appearance only, and not in reality. Thus we have seen that a frog may occasionally move its limbs spontaneously, and a bird may yawn, shake its feathers and change its foot, but these actions are the result of impressions arising from cutaneous irritation or internal discomfort—'ento' or 'epi-peripherical' impressions—or in some cases from the irritation caused by the wounded surface resulting from the operation."

On a previous page he had cited the following phenomena as exhibited by a brainless frog: "If placed on a board, and the board be tilted in any direction, the animal will make the appropriate bodily movements to throw its centre of gravity within the base of support. If its foot be pinched it will hop away. If it is thrown into the water it will swim until it reaches the side of the vessel, and then clamber up and sit perfectly quiet. If its back be stroked gently it will utter loud croaks, and this with such uniformity on each application of the stimulus, that, as Goltz indicates, a chorus of brainless frogs

might be obtained which would utter their *brekekekex koax koax* on the appropriate occasion, in a manner which would have delighted the heart of Aristophanes. Indeed, in many respects it would be difficult to say that the removal of the hemispheres had caused any alteration in the usual behavior of the animal. If placed in a vessel of water, the temperature of which is gradually raised, it will not quietly submit to be boiled like a frog which has only its medulla and spinal cord, but will leap out as soon as the bath becomes uncomfortably hot. If placed at the bottom of a pail of water, it will ascend to the surface to breathe. And not merely so, but if placed in a vessel inverted over a pneumatic trough, and containing a column of water sustained by barometric pressure, it will ascend to the surface as before; but not finding there the necessary atmospheric air, it will work its way downward, and succeed in making its escape out of the vessel to the free surface of the trough. There is a method in its movements. If an obstacle be placed between it and the light of a window, the frog will not spring blindly against the obstacle when its toe is pinched, but will clear it or spring to the side. It will alter the course of its leap according to the position of the obstacle between it and the light. There is, so far, no difference between its behavior and that of the frog in full possession of all its faculties. But yet a very remarkable difference is perceptible. The brainless frog, unless disturbed by any form of peripherical stimulus, will sit forever in the same spot, and become converted into a mummy. Surrounded by plenty it will die of starvation; but unlike Tantalus, it has no psychical suffering, no desire, and no will to supply its physical wants."

The absence of all spontaneous action is, indeed, so conspicuous as to have arrested the attention of all previous observers; but while some recent authorities make a distinction between "spontaneous volition" and the power of making "various voluntary movements" in immediate response to sensory impressions, all the above-named physiologists agree in asserting that general and special sensibility remain after the removal of the hemispheres, and it is just here that Dr. Ferrier exhibits his sagacity in pointing out their error and in furnishing a more

correct interpretation of the phenomena. Frankly admitting that the acts of the brainless animal strikingly resemble those which ordinarily spring from conscious sensations, he argues with force that we can not rely upon appearances alone; for he says:

"It may be that the mesencephale is a centre of reflex reäction of a special form, differing from the spinal cord not in kind, but only in the degree of complexity. Just as the medulla oblongata is a centre of more complex and special coördination than the spinal cord, so the mesencephale may be the centre of still more complex special reflex actions, among which may be the reflex expression of emotion. Hence the plaintive cry elicited by pinching the foot of a rabbit may be merely a reflex phenomenon, not depending on any true sense of pain. And so the leap to the side which the brainless frog makes so as to avoid an obstacle would be merely the resultant of two simultaneous impressions, the one on its foot, the other on its retina."

That this hypothesis represents a verifiable fact he proceeds to show by those "experiments of disease which practically detach the hemispheres from their mesencephalic connections, and leave thought and speech intact, so that we can obtain direct testimony as regards the consciousness of impressions." "The investigations of Charcot, Raymond, Veyesiére, and Render have demonstrated that rupture or disorganization of that part of the internal capsule or peduncular expansion of the crus cerebri which lies external to the optic thalamus, causes hemianæsthesia of the opposite side of the body. Veyesiére, in particular, has established the connection between division of the posterior part of the internal capsule and hemianæsthesia, both by clinical analysis and carefully-conducted experiments on the lower animals. His experiments have been confirmed by Carville and Duret. In this respect both clinical and experimental investigations are quite in accord." When such a lesion occurs in the human subject, "the individual has absolutely no consciousness of tactile impressions made on the opposite side of his body, however much he may strain his attention to receive them. In the mesencephale alone, therefore, sensory impressions are *not* correlated with modifications of conscious-

ness; whence we must conclude that sensation is a function of the higher centres."

The results of his experiments on monkeys, subsequently detailed, are quite in accordance with those of disease in man, and leave no room for doubt. To our minds, at least, the evidence is conclusive that Dr. Ferrier has succeeded in discovering the cortical centres of the several senses. Irritation of any of these centres produces reflexly movements such as we might expect to respond to the reception of the sensory impressions, and such as by comparative experiments on the uninjured animal we find to be actually performed under the influence of such impressions; but the clinching proof is furnished by the complete abolition of the sense on the ablation of the supposed organ.

The centre for sight was found in monkeys to be in the angular gyrus, a convolution which curves around the upper extremity of the first temporo-sphenoidal fissure, not the fissure of Sylvius, as incorrectly stated in an article in the "British and Foreign Medico-Chirurgical Review" for July, 1877. The curious fact was observed that while a total destruction of the angular gyrus produced total blindness of the opposite eye, yet this effect was usually only temporary if the cerebral organ of the other side was uninjured, but destruction of the angular gyrus on both sides caused complete and permanent blindness. It thus appears that both eyes are related to each hemisphere; but Goltz, who has extended these observations of Ferrier, avers that the compensation, when one centre of vision has been destroyed, is never complete. The affected eye, he says, recovers sight for some things, but not for others; and "he suggests that the explanation may be that the animal has to a great extent lost its sense of color and of the position of images on the retina." The British reviewer, in citing this explanation of Goltz, suggests a different and more plausible one. He considers, with Ferrier, that the centre of vision in the cerebral hemispheres forms for each eye an "organic memory," and that this memory being destroyed, objects formerly familiar are no longer recognized.

Ferrier adopts the very ingenious explanation given by Charcot of the heretofore puzzling diversity of manifestation in different cases caused by unilateral disease of the cerebral visual

apparatus. Sometimes there is complete unilateral blindness on the opposite side, while in other cases there is hemiopia in each eye. It is assumed as a necessary conclusion from Ferrier's experiments that there is a complete decussation, but that while a portion of the fibres from each centre decussate in the tubercula quadrigemina, the remainder decussate at the chiasma. Destructive lesions of the cortical centre or of the tract above the tubercles cause total blindness in the opposite eye, but lesions lower down between the tubercles and the chiasm cause hemiopia in each eye.

In like manner Ferrier found the centre for hearing in the superior temporo-sphenoidal convolution, and that for tactile sensibility in the hippocampal region; and he has made it exceedingly probable that smell and taste are located in the subiculum cornu ammonis and the adjacent region. Having thus discovered localized centres of motion and sensation in the cortex of the brain, Dr. Ferrier attempts to show that the corpora striata are the centres in which movements, which at first require true volitional effort, are so organized as to become automatic by repetition. "They form, as it were, the centres of automatic or sub-voluntary integration of the various voluntary motor centres differentiated in the hemispheres." He also believes that the optic thalami play the same subordinate rôle to the sensory centres which the corpora striata play to the motor centres of the hemispheres. That they are not the centres of true conscious activity is clearly proved by the facts already adverted to as having been adduced to show that the regions of true sensation are above these ganglia.

"But though the consciousness of sensory impressions must precede any truly volitional act in response thereto, we find that by education and frequent repetition the action becomes so easy as to follow impression without conscious discrimination or attention, the nexus between impression and action becoming so organically welded in these sensory and motor centres (optic thalamus and corpus striatum) as to assume the character of reflex reäction below the domain of consciousness. In this case we may suppose that impressions made on the organs of sense travel up to the optic thalami, and thence pass directly to the

corpora striata, instead of taking the larger or conscious circle through the sensory and motor centres of the hemispheres. That this shorter or automatic circle is sufficient for purposes of locomotion in the dog, is shown by the fact that, notwithstanding the interruption of the larger circle by excision of the cortical motor centres in this animal, movements in response to immediate impressions, or (when the sensory centres of the cortex remain) in response to ideal impressions, are still capable of being effected with tolerable precision and steadiness. The destruction of the corpora striata annihilates the centres of organization of these motor activities, and the animal lies helpless and completely paralyzed. In man, however, the shorter circle through the optic thalami and corpora striata does not appear sufficient, for the interruption of the conscious circle through the hemispheres by lesion of the cortical motor centres produces paralysis of a very complete and enduring character. And this goes far to show that even the most habitual or most automatic actions of man require the coöperation of the centres of conscious activity, a view which is taken and strongly argued by Dr. Ireland ('Can Unconscious Cerebration be Proved?' 'Journal of Mental Science,' October, 1875). But though the basal ganglia may not of themselves suffice for the execution of the habitual movements in man, there is every reason for believing that they do so to a large extent, from the fact that the performance of habitual actions exercises but little interference with the conscious activity of the hemispheres in other directions. We may express it thus, that in actions requiring conscious discrimination and voluntary effort, the larger circle of the hemispheres is involved, but that in the actions which have become habitual and automatic, the larger circle is greatly relieved by the organic nexus between impression and action, which has been established in the sensory and motor basal ganglia. The optic thalami and corpora striata form thus a *sensori-motor* mechanism, according to the view of Dr. Carpenter. I would use the term, however, only in the generic sense of afferent, efferent, it having been shown that sensation or consciousness of impressions is not a function of the optic thalami. Hence the reäction between the optic thalami and corpora striata

being below the domain of consciousness is outside the sphere of psychical activity, properly so called."

We need not say that this exposition of those habitual acts which Dr. Carpenter characterizes as "secondarily automatic" contrasts most advantageously with Professor Huxley's vague and rash speculations, according to which this automatism is innate and primary. While asserting that animals are machines, he admits that they are "conscious machines," and contends that their volition consists "simply in states of emotion which precede their actions." Moreover, he insists that this view of the relation between the physical and mental faculties "applies in its fullness and entirety to man." (Professor T. H. Huxley, Belfast Address in "Popular Science Monthly" for October, 1874.)

"An automaton endowed with free will," says Dr. Charles Elam, in criticising this address of Professor Huxley, "is certainly a pleasing and interesting novelty in physical science, and Mr. Huxley deserves great credit for his ingenious invention. It would have been an intellectual treat to listen to him replying to any unfortunate opponent who had committed himself so profoundly."

We regard Dr. Ferrier's admirable exposition of the functions of the cerebellum in chapter vi as having conclusively established on the basis of reliable experiments the office of that organ as an assemblage of individually differentiated centres, to be the regulation of the various muscular adjustments necessary to maintain the equilibrium of the body.

In chapter xi he treats of "the hemispheres considered psychologically," and as might have been expected, encounters difficulties which can not be resolved by purely physiological methods. "No purely physiological investigation," he wisely concedes, "can explain the phenomena of consciousness. By throwing light, however, on the anatomical substrata of consciousness physiological experiments may serve to elucidate some of the at present obscure relations between normal and abnormal conditions of the brain, and normal and abnormal psychical manifestations. That the brain is the organ of the mind, and that mental operations are possible only in and

through the brain, is now so thoroughly well established and recognized that we may without further question start from this as an ultimate fact. But how it is that molecular changes in the brain cells coïncide with manifestations of consciousness; how, for instance, the vibrations of light falling on the retina excite the modification of consciousness termed a visual sensation, is a problem which can not be solved. We may succeed in determining the exact nature of the molecular changes which occur in the brain cells when a sensation is experienced, but this will not bring us one whit nearer the explanation of the ultimate nature of that which constitutes the sensation. The one is objective and the other subjective, and neither can be expressed in terms of the other. We can not say that they are identical, or even that the one passes into the other, but only, as Laycock expresses it, that the two are correlated, or, with Bain, that the physical changes and the psychical modifications are the objective and subjective sides of a 'double-faced unity.'"

Having made this preliminary avowal, he proceeds to say that in accordance with this position it must follow from the experimental data that mental operations in the last analysis must be merely the subjective side of sensory and motor substrata, a conclusion which, though it has been maintained by Hughlings Jackson on clinical and pathological data, is, in our judgment, very far from having been positively demonstrated. The chapter contains, however, many very interesting and suggestive remarks, and will amply repay attentive perusal.

The experiments which form the basis of Dr. Ferrier's generalizations were conceived with admirable ingenuity and foresight, and were executed with rare skill. The selection of monkeys as the subjects of his experiments, for the reason that the brain of these animals is closely homologous with the human brain, and the substitution of the faradic for the galvanic current as the means of stimulating the cortical centres, removed some of the sources of fallacy incidental to the methods used by other experimenters. On the whole, we think that he has fully established a claim to be recognized as a leading authority in the department of cerebral physiology. J. S. C.

NOTE.—This valuable review is from the pen of Dr. J. S. Cabell, of the University of Virginia.—ED.

CHEMISTRY AND PHARMACY.

"Diruit, ædificat, mutat."—Hor.

CONDUCTED BY C. W. NULL, M. D., LOUISVILLE, KY.

The Stamp Duty on Patent and Other Medicines.—For many druggists it has always been a troublesome question to decide whether a given article must be stamped or not, and it must be confessed that the law, as interpreted by different revenue officers, has been somewhat confusing and not always free from contradiction. From an official document published last October, we copy the following summary given for the direction of revenue officers generally. The law has not been changed, but it is construed in a manner more readily intelligible, and in a spirit more liberal than formerly.

We may begin by stating that perfumeries and cosmetic articles are liable to the stamp tax without conditions or exemptions. Regarding medicines proper the present directions are:

(1) That all patent and proprietary medicines and medicinal preparations, and all such medicines, etc., for which any proprietary claim is made, real or pretended, must be stamped when sold, offered, or exposed for sale.

(2) That officinal and standard medicines, etc., prepared according to formulæ published in authorized medical books or journals, put up and labeled simply with the name of the article and name of the maker or compounder, are exempt from stamp tax, without the formula and where found being printed or referred to in any manner upon such label.

(3) That officinal medicines, etc., put up in a style or manner similar to patent or proprietary medicines in general, the same being in retail packages with labels attached stating disease for which they are remedies, stating the dose, and giving directions for use, are liable to stamp tax, unless in addition to such matter as indicated above, there shall also be printed on the label the formula and the reference to the standard medical book or journal where such formula is found, or a distinct announcement that the article in question is made or compounded according to a published formula, with a distinct

reference to the standard authority where found, in the manner herein before described. In this latter case such medicines, etc., so put up are not liable to stamp tax.

(4) Unofficinal medicines, or medicines, etc., made, prepared, or compounded, but not in accordance with formulæ published in any standard dispensatory, or pharmacopœia, or pharmaceutical journal, etc., are liable to a stamp tax, unless the exact formula is printed upon the labels attached to such articles, and unless there is an absence of all claims to any proprietorship in the making or preparing the same.

In relation to other articles that are not always used as medicines, the regulations say: Attention is called to the fact, in relation to what is said elsewhere, that cod-liver oil is not necessarily and always a medicinal article. It is only within a few years, comparatively, that the use of this oil in consumption and lung diseases has been recommended by physicians. Previous to that time cod-liver oil was, and even now is, largely used for the like purposes as fish oils in general. Bitters and plasters are among the articles enumerated as liable to stamp tax, but bitters are not necessarily and always a medicinal article. The term bitters may be only another name for a spirituous liquor, and a plaster may be only a mechanical contrivance, or device, or means by which surgeons and physicians protect wounds from gaping, or sores from any and all extraneous matter or influences. These articles, and such as these, are not subject to the stamp act in the absence of any claim made upon the label, wrapper, hand-bill, circular, or in any other mode adopted for advertising the article; that said article is a medicated or a medicinal article, when it is not held out or recommended to the public as a remedy, or a specific for any disease, diseases, or affections of the human or animal body.

Soaps are ordinarily laundry or toilet articles. They may, however, and do become medicinal or cosmetic articles whenever the maker, manufacturer, or vender, or vendee, holds them out and recommends them to the public for their curative or healing virtues or properties, or for the softening and beautifying effects produced by their use upon the hair, mouth, or skin, or their general improvement of the complexion. In other words, when-

ever the manufacturer or vender takes them out of the category of ordinary laundry or toilet soaps and places them in the category of medicinal or cosmetic articles, he must stamp them. *Druggists' Circular.*

Ostrich Pepsine.—M. Alfred Ebelot, in an article in the "Revue des Deux Mondes" on the means employed in the Argentine Republic to protect settlers in the Pampas from the Indians, gives some curious statements with regard to ostrich pepsine. The soldiers never could resist an ostrich hunt when they saw a male ostrich, as is the custom of that bird, taking out its young brood for food and exercise. The parent bird generally escaped, leaving its young in the hands of its enemies. When other food was scarce they ate the young ostriches. Some portions of the flesh of these birds when young and fat are reckoned dainty by the Indians. Whilst eating the ostrich the Indians always carefully put aside the stomach, in order to collect the pepsine which it contains. "The stomach of the ostrich," says M. Ebelot, "is celebrated for its incredible powers of digestion. The abundance of pepsine, to which it owes this faculty, has created among the Indians a curious commercial fraud. They dry it and sell it literally for its weight in gold. It is used for the purpose of restoring worn-out stomachs." A London medical journal says: "We think 'ostrich pepsine' such a splendid name for business purposes that we wonder it has never been adopted. The pepsine of the pig would have no chance in competition with that of the ostrich, and no great city dinner or regimental mess would be complete without a supply of this infallible specific, 'pour refaire les estomacs délabrés.'"

To Hasten Filtration.—Contrary to what might be expected at first sight ("Druggists' Circular"), filtration is much more rapid through thick paper than through thin; it is almost twice as rapid through a double filter as through a single one, and still more rapid through one of three thicknesses. A filter of heavy paper placed under a thin one of Swedish paper is a convenient methodfor filtering.

Solution of Iodoform and Iodoformed Lint. By G. A. KEYWORTH, F. C. S., Hastings.—When iodine tincture is shaken with a fragment of fused potash so as to remove the color, the essential step in the preparation of iodoform, the characteristic odor of that substance appears. In this simple form the fluid possesses great energy as a therapeutic agent, more especially in the healing of indolent sores, for which purpose iodoform is so highly valued by some medical practitioners. Iodine ointment of various strengths, alone or combined with a small quantity of carbolic acid, has long been known to have great power in producing cicatrization and granulation with obstinate ulcers, sores, and wounds. The odor of iodoform, which is to many persons very repulsive, may be readily concealed by the addition of eau de cologne or lavender water.

The alcoholic solution above described, when so treated, furnishes an elegant substitute for iodine tincture, with its dark color, strong chlorine-like odor, and staining property. Lint soaked in this colorless perfumed liquid, and allowed to dry, is a singularly useful application for various sores, promoting the healing process with much energy. Equal parts of this fluid and glycerin form a very useful combination for many purposes. *Phar. Jour. and Trans.*

A Hard Troche.—A New York paper says that a popular doctor in that city, while escorting a lady home the other evening, attempted to relieve her cough and sore throat by giving her a troche. He told her to allow it to dissolve gradually in her mouth. No relief was experienced, and the doctor felt quite chagrined the next day when the lady sent him a trousers button, with a note, saying that he must have given her the wrong kind of troche, and might need this one.—*Exchange.*

Pills for Consumptives.—Quinoidia, 2½ drachms; cryst. sulph. of iron, 75 grains; tannin, 75 grains; citric acid, 75 grains; glycerin, 75 grains; extract of gentian, 2½ drachms. Make 250 pills. Take at first two pills, then three pills three times a day. Continue for at least three months.—*Druggists' Circular.*

Water-Proof Canvass.—Canvass can be rendered water-proof by plunging it into a solution containing 20 per cent. of soap, and afterward into another containing the same proportion of sulphate of copper. Wash the cloth and the operation will be complete. This may be useful to apply to awnings, tents, and to other purposes in which canvass apparatus is exposed to the weather.—*Exchange.*

Hydrocyanic Acid.—Cyanide of potassium 15 grains; dissolve in diluted alcohol 5 drachms; add tartaric acid 35 grains. Shake well, and let stand in a cold place for one hour, filter; 2 p. c. anhydrous acid.—*Druggists' Circular.*

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

Pause of the Pulse in Intrathoracic Aneurism and in Aortic Insufficiency.—M. Franck offers as signs of diagnostic value in cases of intrathoracic aneurisms the following observations. In aneurism of the ascending portion of the aorta, inequality of the amplitude of the radial pulse on the two sides is very frequent. On taking into account the pause of the pulse it is found that it is increased on both sides in cases of aneurism of the ascending portion of the aortic arch, whilst it occurs only on the right side in aneurism of the brachio-cephalic trunk. The existence of an increased pause in the radial pulse therefore excludes at once aneurism of the aorta from the diagnosis, but allows of either aneurism of the brachio-cephalic trunk, or of the thoracic portion of the subclavian. To establish the diagnosis Dr. Franck ascertains whether the increased pause can be observed in the right carotid and the right radial; if this be the case the aneurism is in the brachio-cephalic trunk. If however the increased pause is not perceptible in the arteries which supply the upper limb, the aneurism is in the deep portion of the subclavian, and the car-

otid pulse preserves its normal pause at the beginning of the cardiac systole. In cases of aortic inefficiency, the author has ascertained that instead of finding an increased pause in the carotid pulse, as M. Tripier of Lyons has asserted, there is in reality a pause of less duration than is ordinarily the case. The apparent increase of the pause is due to the illusion of touch, in which the shock at the commencement of the diastole is taken to represent that of the systole, owing to the large reflux of blood which occurs. It is therefore necessary to compare the beat of the heart simultaneously with the carotid pulse. The explanation lies of course in cases of inefficiency of the aorta, in the fact that the arterial pressure is markedly lowered, and the propulsive power of the left ventricle increased; two conditions which favor the passage of an undulatory wave, whilst they diminish the pause of the pulse.—*Compt. Rendus. Ac. Ss. t.*

On the Treatment of Colic.—Dr. D. L. Phares, in the "Transactions of the Mississippi State Medical Association," 1878, directs attention to the mechanical treatment of colic. This consists in simply supporting the patient in an inverted position—in other words, in standing him on his head. In some instances cases that have for hours or days resisted all ordinary treatment, have by this simple means been relieved and permanently cured in from one to five minutes. Cases attended with most intense pain, vomiting and other phenomena of so-called "bilious colic," have been thus cured. Relief is sometimes obtained by the knee-breast position, or by suspending the body by means of the thighs and legs extended across a high bed or table, the arms and hands being free to assist in giving support to the head. But complete inversion is the most sure and prompt remedy. The majority of cases of colic result from mechanical influences, and it is but reasonable to seek relief in mechanical counter-influences. Several very distressing cases are remembered as being instantly cured in the inverted position, solely, as the patient averred, by the escape per anum of a single small bubble of gas, without explosive noise. Other cases of most agonizing character have been instantly and permanently cured by a change of position of gas in the bowel,

effected so quickly as barely to be noticed by the patient. Often the pain vanishes the instant the vertical position is assumed, and does not return so long as this posture is maintained. But relief is not usually permanent unless some movement of gas be felt. Such movement may be perceived by the patient very promptly, or one minute or more may elapse; rarely no movement at all is perceptible, and yet the relief may be complete. This treatment is not presented as infallible in all cases; from the very nature of the obstructions it is reasonable to expect some failures.—*London Medical Record.*

Treatment of Rhus-Poisoning.—Dr. Brown, surgeon in the United States Navy, believes that he has discovered in bromine a "specific" cure for the cutaneous inflammation produced by contact with the volatile poison of this family of plants. He states that he has used the remedy in forty cases, with the same unvarying success; that the eruption never extends after the first thorough application, and promptly begins to diminish; the patient being entirely cured in twenty-four hours if the application be persisted in. He uses the bromine dissolved in olive oil or cosmoline, ten or twenty drops to the ounce, rubbing it gently upon the affected parts three or four times a day, and washing off the oil twice a day with soap. There is no pain attending its use. The bromine is so volatile that it is necessary to prepare the mixture afresh every day.—*Boston Med. and Surg. Jour.*

Of the Nature of Mumps.—M. Fehr, after observing several cases of mumps with the greatest exactness, decides that it is right to consider the disease as infectious, and that, as was already noticed by previous observers, it stands in a definite relation to acute exanthema, particularly to scarlet fever. The occasional swelling occurs in the neighborhood of the glands themselves, whilst the surrounding tissues only become infiltrated at a later period. It is, to say the least of it, inaccurate to describe the disease as periparotitis, as is usually done; that it is not parotitis is shown by the fact that in very many cases of mumps it is the sub-maxillary which is either affected alone,

or is swollen at first. The infection is not due to the propagation of inflammation of the mouth caused by secretions from the glands. The observation that in most epidemics of mumps there is a period of incubation lasting several days with the well-known febrile symptoms before the appearance of the local symptoms, as well as the spread of disease not only to surrounding persons, but also to the fœtus, argue for a specific alteration in the blood. The swelling of mumps is not a catarrhal inflammation, but a morbid swelling of the glands depending upon varying hyperæmia which only occasions collateral hyperæmia and infiltration of the neighboring tissues, when there happens to be a stoppage of blood in the glands.—*Von Langenbeck's Archiv.*

The Cause of Deformity in Fracture of the Lower End of the Radius.—It is a well-known and generally-acknowledged fact, that a fracture of the radius can often only be diagnosed by the very characteristic deformity which takes place in the lower extremity of the bone. There are, however, cases in which this deformity can not be proved, and in consequence the diagnosis must be very uncertain. M. Schmit ("Revue Mensuelle de Médecine et de Chirurgie" for November) has tried to diminish this difficulty by showing that the age of the patient, the height from which he fell, and the amount of the injury sustained, are more or less closely connected with the absence of this deformity. The author has made many experiments, the result of which he quotes as follows: The deformity can be demonstrated in about one half of the cases as long as the epiphysis and the bone are not yet firmly joined together. Between the age of twenty and forty, deformity is quite the rule; the exceptions are very rare, perhaps only five per cent. With advancing age, however, this tendency to deformity grows less; after sixty, it is only met with as an exception, especially in women, where it appears in eleven out of thirty. In order to discover why this very characteristic deformity does not take place in fractures of the inferior extremity of the radius in old men, and especially in women after sixty, M. Schmit has repeated the experiments performed by Nélaton, Lecomte, and

Tillaux, in addition to his own. He has come to the conclusion that in all these cases deformity is prevented by the want of resistance in the radius of the aged which is caused by the increased thinning of the substance of the bone.

Dr. Walker's Modification of Sayre's Apparatus.—Judging from the late discussion by the Medical Society, the surgeons of this country are willing to adopt the treatment of Dr. Sayre for disease of the spine in its entirety. Many, however, who have become acquainted with Dr. Walker's mode of applying the plaster jacket will think, with me, that it has some merits over that of Dr. Sayre, and I wish briefly to record in the Journal my own experience of this modification, and my reasons for adopting it.

At the Children's Hospital and other institutions, I have had a very great number of cases of diseased spine under my care; and, until August last, when, as secretary to the Surgical Section, at the meeting of the British Medical Association, I had full opportunities of learning Dr. Walker's views, I had always applied the plaster bandage with strict attention to all the rules laid down by Dr. Sayre. After conquering those small technical difficulties which beset the adoption of any new plan of treatment, I found that, apart from the terror, often the pain, and sometimes the danger of Dr. Sayre's method, it was impossible to avoid, in some cases, the occurrence of sores over the prominent spinous processes of more severe cases.

Since August I have applied, at Great Ormond Street and elsewhere, more than twenty bandages after the method advocated by Dr. Walker, and I confess myself most satisfied with the result in every way. In all slighter cases the effect has been as satisfactory as Dr. Sayre himself could wish to see; whilst, of the more severe cases, in no instance have I had to remove the jacket. In application it is simple, and it is free from any terrors, pains, or dangers, which undoubtedly are caused by suspension of the patient. On the other hand, it is most efficacious in result, and based on the soundest principles, pathological and surgical.

The various elements of the spine are held together by liga-

ments, whose function is to fix each vertebra in a definite relation to the vertebra above and below, the relations varying in different parts of the spine, but the whole being subservient to maintaining the superincumbent weight in the erect position. If by the collapse of the body of one or more vertebræ the weight be thrown forward, a strain is put upon the muscles and ligaments so long as that weight has to be supported; but, whenever the weight is removed, the vertebræ return to their normal relationships. The method which Dr. Sayre adopts of removing the weight is by suspending the patient; that recommended by Dr. Walker is by laying the patient in the recumbent position. English surgeons appear to be so carried away by the novelty of suspending patients by the head and axillæ, that they are unwilling to believe that the same result can be obtained by laying them on their back. Whilst the one is an unnatural means of effecting the object, not devoid of risk or free from pain, the other is an easy method, and that which is apparently dictated by nature. It must not be forgotten that, before Dr. Sayre came amongst us, many a case of angular curvature was brought to a successful issue by rest long continued in the recumbent position. To Dr. Sayre is undoubtedly due all credit for discovering that the spine could be fixed in a condition of rest and treated in the way that experience proves to be most useful in the case of disease in other joints. But by the plan of Dr. Walker the vertebræ are fixed in that condition which they assume when the patient is laid upon the back, the position of most natural rest. In principle this seems to me to be scientific; in practice it is simple; and in result it is efficacious.

I shall be happy to show the mode which I have adopted, after Dr. Walker, of treating these cases at the Children's Hospital, and I hope that it may commend itself to others as producing an equally beneficial result, whilst avoiding the many objections which are found to suspension.—*John H. Morgan in British Medical Journal.*

Jaundice and Lumbrici.—The description among the clinical memoranda (George Padley, Swansea, "British Medical Journal,") of a case of jaundice in a child probaly due to the presence

of lumbrici, induces me to send the following, which lately occurred in my practice.

A little girl aged about five, having been ailing for some days, began to show symptoms of jaundice, which soon deepened in color, accompanied by vomiting, some abdominal pain, somewhat obstinate constipation (not previously existing,) and the usual characteristic appearance of the motions and urine. After a couple of mercurial purges, and after the skin and secretions had nearly assumed their natural color, she passed a large dead lumbricus. She improved much for a few days; but as she subsequently showed symptoms of being out of health, and once vomited, I gave her a dose of santonin with castor-oil, which acted twice freely on the bowels, but without the expulsion of a worm. It is, therefore, probable that the one passed was the only one present. Whether this was the cause of the jaundice, by partially entering the bile-duct or otherwise, or was only coïncident with it, is of course, as in the other case, open to question. There was not any other apparent cause or explanation of its occurrence, as the child was previously in good health. Several cases are recorded by Murchison, Frerichs, and others, both in the child and in the adult, in which post-mortem examination has proved jaundice to be due to a worm having to a greater or less extent entered the bile-duct; and it is reasonable to suppose that many others have occurred in which recovery has placed the connection between the two—the worm and the jaundice—beyond the reach of positive proof. In none of the works on the diseases of children to which I have had access—not even in West's comprehensive treatise—is this connection noticed.

Chloroform in Labor.—Our habits of practice strangely differ, yet I suppose they are formed by tuition, varied by experience, ultimately settling down as we advance in age into a kind of dogmatic style of procedure, handed down to our successors as rules for guidance which have sufficed to carry us through many dangers and difficulties, and which we fondly and firmly believe may suffice for our younger brethren. Are we not in too great a hurry to lay down rules for our own guidance? I am tempted

to make these remarks after reading a good, but too brief, note by Dr. Muir Howie, of Liverpool, on Chloroform in Labor in the Journal of November 23d. He has adopted a rule with regard to the administration of chloroform, and his corollary may, I think, with justice be put thus: No chloroform, no post-partum hæmorrhage. Now, unfortunately for his opinions, but fortunately for me, I have had no post-partum hæmorrhage for a longer period than six years, except in one case of rapid delivery, with little pain, and where no chloroform was used; but I attribute this absence of hæmorrhage to my habit of following the Dublin practice (so known to me) of grasping the uterus during and after expulsion of child and placenta. Ergot I use but seldom; chloroform not often; forceps frequently. "Spare the forceps and spoil the child" presents itself to my mind as approaching as near to the truth as an older and more familiar quotation, both forceps and rod being perhaps more necessary in the case of boys. I may say, I think almost without exception, that when attending a case where I have previously used chloroform or forceps, I am asked, and frequently implored, to employ the same material helps again. I will but mention one class of cases where I find chloroform used, viz., in primiparæ where the head is pressing on the perineum, which seems ever too ready to give way. Surely, here a little chloroform, especially aided by support with hot flannels, must be considered a boon. Even if it prolonged labor, yet a little rest were sweet; but I hold a contrary opinion. I believe it sometimes expedites delivery, although proof on this point or *au contraire* must be difficult. Formerly I used to sally forth with ergot in powder; then with the elegant preparation of Messrs. Richardson & Co.; now I take my forceps and chloroform, firmly believing that the latter is a great boon, neither lengthening labor nor prolonging convalescence, while the former saves women many dreadful hours of suffering, and frequently the lives of their offspring.—*Charles Orton, F. R. C. P., in British Medical Journal.*

Anti-Constipation.—The following pills are recommended highly for inertia of the intestinal muscular coat, with deficient

secretion of intestinal mucus: ℞. Ext. nucis vom., grs. vj.; ext. belladon., grs. iij.; pulv. ipecac, grs. xij.; ext. colocynth co., grs. xxxvj. M. divid. in pil. xij. Sig. One at bedtime.

Trousseau recommends a pill of gr. ss. ext. belladon. to be taken at bedtime for constipation, persevering in this treatment for at least a month.

A writer to the "British Medical Journal" advises for the same trouble the following: Put into a basin or bowl two or three tablespoonsful of Scotch pea-flour, adding some salt. Pour sufficient boiling water thereon to cover the mixture, beating or stirring it into a paste as quickly as possible, adding more water if needed. Eat immediately with fresh milk.

Conservative Surgery.—Dr. Borlée claims that a simple dressing of charpie and compresses wet with spirits of camphor, in connection with thorough drainage, deserves the preference over Lister's method. With this dressing erysipelas scarcely ever occurred. The suppuration, even when the wounds were extensive, was slight, and the secretion did not become offensive. He illustrates the method by the histories of eight cases, comprising one case of "loose cartilage" in the knee-joint, removed by excision, with perfect recovery, two cases of severe, complicated fracture of the leg, an amputation and an exarticulation of the upper extremity, and extirpation of tumors.—*Cent. Chirur.—Medical Record.*

Treatment of Facial Neuralgia by Aconitine.—Professor Gubler states that he has never met with a case of neuralgia of the fifth nerve, even tic-douloureux, which failed to yield to aconitine. A man on whom Nélaton had performed the operation of resection of the nerve for violent neuralgia, with only temporary improvement, was entirely cured by aconitine, of which he took 1-14th of a grain (0.005). Hottot's preparation of the nitrate of aconitine is the best to use; the dose is 1-140th of a grain (½ milligramme), which contains 1-280th of a grain of aconitine. When this quantity fails to produce the effect desired, the doses may be increased, up to 1-12th grain (0.006). Heart disease absolutely counterindicates the drug.—*Med. Chir. Rundschau.*

Does Quinine Affect the Hearing?—The belief is general among the laity that the prolonged use of quinine affects the hearing. Medical men have generally disbelieved this, and attributed the notion to prejudice. Dr. Roosa, of New York, has been examining the evidence, such as he can procure, and is inclined to believe that in some cases there is a permanent nervous affection of the ear produced, which justifies the opinion of the laity.—*Med. and Surg. Rep.*

A Perfumed Solution of Iodoform.—The objection to the use of iodoform, on account of its unpleasant odor, says the "Medical and Surgical Reporter," has led an English druggist to prepare a perfumed solution. This is prepared by shaking tincture of iodine with a fragment of fused potash until the odor is removed, and covering the odor of the iodoform produced by the addition of eau de cologne or lavender water. The author speaks of lint that has been dipped in this liquid, and afterward dried, as being a very good application to indolent sores.

New Method of Covering the Taste of Cod-Liver Oil.—Dr. Ponteres mixes a tablespoonful of cod-liver oil with the yellow of an egg, and when they are thoroughly combined adds to them a few drops of spirits of mint and half a glass of sugar-water. In this way he obtains a sort of mulled egg, which differs very little from ordinary mulled egg, and which presents neither the taste nor the odor characteristic of cod-liver oil. It can consequently be taken without repugnance by the most fastidious patients.—*Union Med.*

MEDICAL NEWS.

'Nulla dies sine linea."

Quinia to Prevent Surgical Shock.—Dr. Hunter Maguire, of Richmond, Va., and one of the editors of the "Ohio Medical and Surgical Reporter," have tried the effects of quinine to cinchonism in warding off shock in surgical operations, and thus

far with success.——*Porphyrized Iron.*—This is prepared by M. Cabrol, of Paris, by mixing pure metallic iron (oxide) with cane sugar. It is claimed to be superior to the "dialyzed" iron. ——*Antiseptic Surgery.*—The cost of the antiseptic system in the Glasgow Royal Infirmary is so great that it has excited the serious consideration of the managers.——*Ununited Fracture of Tibia.*—A case of unmanageable ununited fracture of the tibia was successfully cured by Dr. Guyon, at the Hospital Necker (Paris), by three subcutaneous injections of tincture iodine between the ends of the bone. Union was complete in six weeks.——The local press of Vienna, in speaking of the death of the celebrated anatomist, Rokitansky, mentions among the other details of his life, that he dissected no less than thirty thousand cadavers.——Some careful experiments relating to the thermal death point of septic organisms have been reported to the London Royal Society by Rev. W. N. Dallinger. From these it was shown that 250° F. was the limit of heat that such organisms could endure. Boiling water, therefore, would not destroy these germs.——A cold bath, says Dr. Baun, refreshes the system by stimulating the functions; a hot bath by facilitating them. ——Habitual drunkenness is not a disease, says Dr. Bucknill, though it causes all manner of diseases, but in itself is a vice, and ought to be treated as a vice. The habitual drunkard is a man who likes to drink whenever he can, and who can drink whenever he likes.——The "Boston Medical Journal" says "that New York, with clinical opportunities second to no city in the world, with teachers of a world-wide reputation, must be content to see her schools looked upon with contempt until she has placed them upon a footing which modern civilization demands."——The English chemists, T. & H. Smith ("Detroit Lancet"), announce the discovery of a new opium alkaloid, which they call gnoscopine. This substance forms readily crystallizable salts, which have an acid reäction. The substance is insoluble in water, or at least in only 1,500 parts. When pure it is in the form of long, thin, white needles, having, when dry, a woolly character.——The total tax of the United States ("Detroit Lancet") upon alcohol and tobacco is over $100,000,000. In India 300,000 acres of land are devoted to opium

raising. Enough Indian hemp is raised to narcotize 300,000,000 of the human race. Five hundred million pounds of the betel nut are raised every year. To the cultivation of cocoa 37,000 acres of land are devoted. The annual value of the hop crop is estimated at over $40,000,000. The value of the tea imported into this country during 1877 was $16,481,467, and of coffee $53,634,991.——Milk is an agreeable solvent of quinine. Dr. Batterburg ("British Medical Journal") says one grain to the ounce is hardly perceptible, or five grains to the tumblerful "lose all their bitterness."——*A Substitute for Tracheotomy in Croup.*—The "Canada Medical Record" quotes Dr. Palvadeau, in "La Tribune Med.," as using the hypodermic syringe for the purpose of injecting a solution containing equal parts of sol. ferri perchlor. and water by piercing the trachea just below the thyroid cartilage. The membrane can not resist this solution, and shreds rapidly come away and cure follows speedily. ——*To Clean Instruments.*—The various substances hitherto used ("Année Médicale de Caen") by surgeons to remove rust and spots from their instruments invariably destroy the polish on the surface or on the edge of the instrument. "Stilbéine" is proposed as a substitute. It is composed of emery and rubber; is hard and cut into pieces similar to rubber used for erasing pencil-marks. Nothing is more convenient or more economical. It removes rust, blood-spots, and other stains in an instant. It restores the polish and brilliancy which has been removed by moisture, but if the surface is rust-eaten it must be ground again.——Professor Gorini ("British Medical Journal") is at the present moment in London employed in superintending the erection of a funeral pyre on a site belonging to the Cremation Society near London. The pyre is on the system which has been approved in numerous cremations at Milan and other places in Italy.——Quacks seem to flourish in Bavaria. Statistical tables (Ibid) have been drawn up to ascertain the exact number of them, which is not fewer than 1,563 for the last year. The greater part of these quacks are barbers; farmers are a little fewer in number; so are priests. In some parts of Bavaria, these qualified practitioners have even superseded the professional men.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

Biographical Dictionaries.—A great deal of abuse has been poured by the Medical Press upon a biographical dictionary entitled "Physicians and Surgeons of the United States," edited by W. A. Atkinson, M. D., of Philadelphia, and published by Ch. Robinson, of the same city. It has been assumed by some that it is a swindle on the part of Dr. Atkinson, and a mercantile speculation of an unworthy character on the part of the publisher.

It has been charged that the objects of both have been bad, and intended simply to reap a golden harvest by taking advantage of the vanity of men. Indeed, much more has been said in regard to these gentlemen; some going even so far as to state that Dr. Atkinson should be expelled from the American Medical Association, and be regarded as a disgraced and branded man in the Profession. Much worse even than this has been published.

It is the duty of every journal to be thoroughly independent, and especially where it is believed necessary to protect and vindicate an unjustly oppressed and persecuted man.

Mr. Robinson, it appears, simply proposed to publish a biographical dictionary, and to give Dr. Atkinson so much to edit it; a transaction of the most usual and legitimate character.

Does the transaction differ indeed from that relative to all encyclopædias containing biographical sketches? Appleton's Encyclopædia is filled with biographical sketches, the facts being furnished by the subjects of them. These gentlemen subscribed or not to the Encyclopædia, as they deemed best. The same is true of Johnson's Encyclopædia; of Chambers'; and of all the encyclopædias which have appeared. There is scarcely a prominent physician in America or Europe who has not been asked for such information and who has not given it, feeling that there could be no harm in furnishing any information which is considered desirable, the applicant being allowed to judge of this fact. The information desired was collected through canvassers employed by Mr. Robinson; physicians

giving the information and subscribing or not subscribing to the work, as they pleased; and if they did subscribe, the money went to the publisher. It may justly be asked wherein in this matter has Dr. Atkinson erred?

Mr. Robinson, the publisher, obtained the information, the subscriptions, received all the money, and gave to one in every respect competent so much for superintending the editorial part only of the work. This editor made known to physicians publicly and by private circulars the objects of the publisher; stating openly that he would edit it. Is it not gross injustice to censure Dr. Atkinson for an act to which the most distinguished physicians of this country have been an equal party? The frontispiece contains a picture of Dr. S. D. Gross. There are pictures of Drs. Austin Flint, Sr., and Dugas, of Atlanta; and of A. C. Post, of New York; Hutchison, of Brooklyn; Agnew, of Philadelphia; N. S. Davis, of Chicago; J. T. Miner, of Buffalo; the late distinguished A. B. Crosby, New York; Sayre, Detmold and Loomis, of New York; White, of Buffalo; Atlee, of Philadelphia; Campbell, of Augusta; W. A. Hammond, Fordyce Barker, etc., etc. Their biographies also are all furnished. Drs. C. R. Agnew, Brown Séquard, J. C. Dalton, F. Delafield, Ogden Doremus, J. C. Draper, J. W. Draper, W. H. Draper, E. Elliot, L. Elsburg, T. A. Emmet, A. Flint, Jr., J. W. S. Gouley, A. McLane Hamilton, F. H. Hamilton, A. Jacobi, E. G. Janeway, T. M. Markoe, J. T. Metcalfe, F. N. Otis, M. A. Pallen, E. R. Peaslee, J. E. Peters, E. C. Seguin, G. F. Shrady, J. Marion Sims, T. G. Thomas, W. H. Van Buren, and very many others of equal distinction in New York, have their lives all carefully given; whilst physicians of distinction in almost every city have their lives presented; gentlemen of high professional and personal character, who could not be parties to a fraud or swindle, etc.

It is true that the book contains biographies of very many who have never been known or heard of beyond their county limits. It is true that the work contains steel engravings of very obscure men, but it must be remembered that the canvassing for all information and the obtaining of all orders for such steel engravings is chargeable to the publisher, and not to the editor; and it must be admitted too that the former, in his title

to the work, styles his volume "Physicians and Surgeons of the United States," and not "Distinguished Physicians and Surgeons of the United States;" a fact of great weight.

Dr. Atkinson's duty was simply to classify such material, to revise the text, and to see that the work, in its composition and style, was correctly issued. For this he was properly paid.

It can not be denied that while the work contains a great deal that is useless and valueless, it also contains accurate biographies of almost all of the distinguished physicians of this country; and no physician would regret the small amount paid for so valuable a volume. If Dr. Atkinson is censured for such work, it must be admitted that the facts cited do not warrant it.

If the publication of the work is an ethical wrong on the part of its editor, it is a curious fact that this wrong has been sustained by almost all the living presidents of the American Medical Association; these gentlemen and almost all the members of the Association have given their biographies for it. They have known well the basis of its publication; they have known also, with hundreds of distinguished men, that the work was to be published, while during this period, the Association has met twice without any action whatever on their part towards Dr. Atkinson, who was secretary of the Association. It may be added, humorously, that the work is embellished with portraits of several of the presidents of the Association. Whether the editing of such a work is ethical or not, it is not difficult to determine; the Association will reply.

The fact is, that most of the malcontents and grumblers in this matter are those whose biographies have been omitted. They must take comfort, and hope; their biographies will appear in the next edition, as the present one is as yet very incomplete.

Society Proceedings.—It is often the case that subscribers do not read society proceedings, and it is invidious to notice one report and not others; but there is a departure from this rule in the proceedings in this issue, for it contains a very valuable paper by Dr. Welch; this paper all are advised to read.

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I. *Diphtheria And Its Treatment.* By CHAS. H. S. DAVIS, M. D., of Meriden, Ct.

HISTORY.

Diphtheria is not a new disease. It is thought to have been familiar to the ancient Greeks, Romans and Egyptians. It probably prevailed, more or less, under various names, during the first fifteen centuries of the Christian era. Hippocrates, 460 years before Christ, describes the disease. Aretæus, who lived at the close of the first and the beginning of the second centuries, wrote very extensively upon diphtheria. Aretæus says that children who have not arrived at the age of puberty were the most frequently attacked by this disease. The fœtor which came from the mouths of the fatal cases is spoken of as being very loathsome. Fluids were regurgitated through the nose, and there was hoarseness and loss of voice. In some cases the disease extended to the air tubes and caused speedy death by suffocation. The disease, as thus described by Aretæus, originated in Egypt, and especially Coelo, Syria, whence it was described by the name of malum Egyptiacum, or Syrian ulcerations. Macrobius speaks of an epidemic of diphtheria at Rome, A. D. 380, at which time sacrifices were offered up to a certain goddess. During the first 500 years the disease extended only into Asia Minor. It then invaded the South of Europe, and

crossing the continent during the next 1,500 years, affecting principally garrisoned towns, till, reaching Paris, London and Liverpool, it passed to various other parts of the world. It is known to have been epidemic in Western Europe in the sixteenth, seventeenth and eighteenth centuries. In 1337, a fatal epidemic of diphtheria occurred in Holland, and again in 1557, which proved very fatal, and which spread to other parts of Europe. In 1576, there was a very malignant form of the disease prevalent in Paris, and from that time we find that epidemics of diphtheria have shown themselves almost constantly to a greater or less extent, in some portions of Europe. In 1820, diphtheria was epidemic in the South of France, and the first accurate investigations concerning the nature of the disease were made by Bretonneau, in the year 1821.*

Bretonneau gave the disease the name of diphtheria, from the characteristic fibrinous exudation which accompanies it.†

In 1855, diphtheria became an epidemic in England. It was brought by an English ship from Bologne, where it was epidemic, and it was called diphtheria, or Bologne fever. Diphtheria, at that time, was clinically an unknown disease to most practising physicians in England. The epidemic was investigated by the medical department of the Privy Council, and pronounced contagious, although it was thought by them that the disease moved from place to place, independently of the direct mediation of persons or clothing, and apparently through the air.

Dr. Douglass, of Boston, in the year 1736, seems to have published an account of the first appearance of the disease in this country. The epidemic which he describes was very malignant. Since the epidemic described by Dr. Douglass we do not find any other of a similar character mentioned by writers until 1831. The disease has been more or less preva-

* Traité de la Diphthèrite. Paris, 1828.

† The epidemic which raged in France in 1828, has been graphically described by Professor Trousseau. At Marcilly more than one tenth of the entire population had died of the disease. In one family of eighteen persons all but two died.

lent in this country ever since. In California, especially, very fatal epidemics have prevailed. In 1858, in Albany, New York, diphtheria assumed an epidemic character, proving very destructive. In a population of 60,000 there were 167 deaths.

In New York, consumption, dysentery and pneumonia still take the lead in the order named, in the number of deaths, but diphtheria follows closely upon these, and is likely to eclipse them all, since science is ever gaining added control over the three most deadly ailments known in this latitude, while diphtheria steadily increases in malignancy and in the power to destroy. In the year 1857, in the city of New York, there were two deaths reported from diphtheria; in 1858, there were five; in 1859, fifty-three; in 1860, four hundred and twenty-two; in 1861, four hundred and fifty-two; in 1862, five hundred and ninety-four. In 1873, there were 1,151 deaths, while in 1874, the number was increased to 1,672, and in 1876, reached the number of 3,510. In London, with three times the population, the yearly mortality from this disease has never exceeded five hundred.

Dr. William Farr calls attention to the fact that of 1,000 children born, 4.9 die of diphtheria in the whole of England and Wales; 4.4 in Liverpool, and so many as 10.3 in the healthy districts of England and Wales, which are exclusively rural. In England, in 1860, there were 5,212 cases; in 1861, 6,810; in 1862, 6,975 deaths reported from this disease alone.

In Massachusetts, diphtheria has recently prevailed with great malignancy in the northern and western parts of the State, where the population is largely American, the land high but often moist, and drainage almost entirely left to nature. In Williamstown and Adams, the epidemic fell heavily. Following down the valley of the Deerfield river, Florida, Heath, Charlemont, Leyden, Shelburne, Conway, Greenfield, Deerfield and Bernardston suffered severely. The mortality in some of these towns was excessive, reaching in some towns as high as 75 per cent. In Conway, where there is a large Irish population, the Americans were almost the only ones attacked, and one-tenth of the native population suffered from the disease, of whom thirty per cent. died.

The present epidemic has reached a considerable degree of severity in parts of France, Italy, Germany, Russia and Austria. In the United States, California, New York, Vermont and Tennessee have suffered severely, showing the wide extent of its prevalence. Occasionally it has come suddenly and as suddenly disappeared; elsewhere there have been several recurrent epidemics, and in towns where the sanitary condition is very bad, it has become virtually endemic. The principal errors in statistics are due to the lack of common agreement between physicians as to the application of the terms diphtheria and croup, and the confounding of scarlet fever, in some of its forms, with the former. In Meriden, a case of œdema of the glottis in a man 36 years old, was returned as diphtheria.

The mortality from diphtheria is high. Oertel puts it, in severe epidemics, at 30 and 40 per cent.; English authorities, from 10 to 33 per cent. In Massachusetts, the death rate from it ranged from 6 to 80 per cent. of the cases attacked, and in some localized epidemics every person attacked has died. Trousseau reports an epidemic where, of sixty persons attacked, nearly every one died.

CAUSES.

Diphtheria must be placed in the same category with small-pox, scarlet fever, measles and other zymotic affections. Like them it is due to a specific virus. It is both contagious and infectious, although the exact mode in which the contagion operates is unknown; but the contagion clings to particular places, houses, and even chambers. Diphtheria is not, however, contagious in the same sense that scarlet fever and measles, for instance, are so, for it does not prevail in densely-populated places, where the facilities for contagion are best. As the distance to which scarlet fever is transmissible is less than in the case of measles, so does it appear that nearer contact is necessary in propagating diphtheria than the other contagious diseases. It is believed by many that diphtheria is inoculable. Dr. Valleix, well known as a writer on the diseases of children, was attending a child with diphtheria. One day, on examining the throat of his patient, he

received in his mouth a little saliva, ejected in the effort of coughing. In forty-eight hours Dr. Valleix died of diphtheria, though his patient recovered.

M. Brettonneau relates the case of a boy affected with frost-bites on his foot, happening to use a bath that had been employed for a diphtheritic patient; his great toe at once became the seat of painful diphtheritic exudation. On the other hand, Professor Trousseau failed in experiments, which had in view the inoculation of himself and two of his pupils with diphtheritic matter.

In my own practice, a girl thirteen years old had a very severe attack of diphtheria, keeping her in bed about two weeks. Three months after recovery she visited another town, and occupied the same bed with a sister eleven years old, and this sister was attacked with diphtheria and died. Another instance was a lady, two weeks after having had diphtheria in her family, visiting another town, and a young child in the family she was visiting, was attacked with the disease and died, it being the only case in the town at that time. It would seem that there must be a condition of system favorable to the development of diphtheria; otherwise, we can hardly account for the immunity of certain families, or certain individuals, when subjected to conditions apparently identical with those which have been followed by the development of diphtheria in other members of the family, or in other inmates of the household. The more virulent a case of diphtheria and the more abundant the secretions, the greater the liability to infection. Virulent cases, however, may result from infection originating from mild cases. The idea is fast gaining ground that diphtheria, when not communicated from person to person, is generally, if not always, due to unsanitary local conditions. It may be developed from foul, stagnant water, from defective drainage-pipes, permitting soil saturation with the unwholesome fluids that should be conducted safely away; or, as is too frequently the case, from cheap and defective plumbing, without proper traps and devices for preventing the intrusion of noxious sewer-gas into the sleeping apartments and living rooms of

dwellings. The statement of Mr. Simon, chief sanitary officer of Great Britain, is a rather startling one to consider. He says that of 1,000,000 deaths occurring in England, fully 125,000 are from preventable diseases. The English town of Croyden was very unhealthful at one time; so much so, in fact, as to lead to the establishment of a pretty complete set of public works, and the enforcement of special sanitary regulations, all of which have been in operation some eighteen years. The mortality before the completion of the works was 23 per 1,000. Afterwards it was 18 per 1,000 for an average of thirteen years. This gain of five per cent. represents about 2,500 lives.

In low and damp, or high and damp places, especially in narrow river valleys running easterly and westerly, with shallow or clay soils, especially if overlying rock, and with polluted air and wells, the fatality from diphtheria has often been such as to remind us of the plagues of the last century. It is clearly demonstrable that, as the drainage of a district is perfect or imperfect, so certain forms of disease disappear or prevail. Typhoid fever, epidemic influenza, scarlet fever, as well as diphtheria and other diseases, are generated or aggravated by the neglect of t e most important of sanitary measures — a perfect system of sewerage. No water-soaked ground can ever be healthy, or fit for human habitation. Soil moisture is well known to be one of the prolific causes of the tubercular diseases which annually claim tens of thousands of victims. Dwellings, otherwise excellent, are often erected in apparent utter thoughtlessness of the character of the soil on which they are built, or its capacity for drainage, where this should have been a primary consideration. When the people have once been educated to an appreciation of the fact that a homestead built on undrained soil is the certain abode of death; that houses with their water supply and and privy vault in close proximity, are nothing less than highwaymen who watch for our lives; when they are convinced that certain conditions, either of soil or dwelling, will certainly produce death, then will they begin to understand and appreciate the importance of a thorough system of drain-

age, as well as the proper arrangement of the water supply of their dwellings.

NATURE AND PATHOLOGY.

One of the most interesting medical questions of the day is that relating to the connection between certain minute organisms and diseases, and it forms the basis of one of the most complete theories that has ever been advanced to account for the origin and spread of certain diseases. Researches of recent date have shown conclusively that foul drinking-water and the exhalations from privies and sewers, or their connections, are the principal agencies by which typhoid fever is spread. We know that some diseases at least are due to minute animals, such, for example, as itch and trichinosis, and that favus and perhaps a large number of other skin diseases, are due to a microscopic plant. Until recent years the majority of opinion has been unfavorable to this germ theory as it is called, until the researches of Chaveau,* Sanderson,† Bastian,‡ Panum,‖ Billroth§ and Hiller¶ came to be generally known to the profession. All of these observers admit that certain diseases are associated in their lesions with the presence of low organisms. All of these organisms are of microscopic size—some, indeed, so minute that it requires the highest powers of the microscope in common use to make them out with any degree of distinctness. These bodies have recently come to be called bacteria,** but they are not all rod-shaped as the name would imply. Bacteria are found very abundantly in all putrid fluids and substances, with very rare, if any, exceptions; but they are by no means confined to such conditions,

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* Twelfth Report of the Medical Officer of the Privy Council, 1869, p. 232.

† British Medical Journal, January 16, February 13, March 27, April 3, 1875.

‡ London Lancet, April 10, 1875.

‖ Virchow's Archiv., IX, III, IV, 1874.

§ Untersuchungen ueber die veg, formen von Cocc bacteria septica, Berlin, 1874.

¶ Archiv. fur Klin Chir. IV, 1875, et al.

** Bacterium, a little rod.

as they exist generally in nature, and in fact in the very air we breathe. This has been clearly demonstrated by Professor Tyndall.

These remain innocuous, and can be found in the saliva of healthy persons by microscopical examination. Professor Dalton has shown that they multiply one million times in less than an hour. Diphtheria is one of the three diseases in which bacteria have been found. No one had the faintest idea regarding the true causation of diphtheria until Hueter and Oertel in Germany simultaneously made the discovery that the diphtheritic membranes, the subjacent diseased parts, and even the blood of diphtheritic patients contained in great numbers these vegetable organisms, so-called bacteria.

There is one form of bacteria, according to Oertel, which in particular penetrates the tissues wherever the diphtheritic disease is found. The bacteria, to which allusion is here made, are spherical in form, and are called by Oertel micrococci. Oertel found the exudation and tissues filled with these parasites, and the more severe the type of the disease, the more numerous were the bacteria. Whenever the disease increased in severity, there was also a corresponding increase in the number of these vegetable organisms in the infected parts. At the very commencement of the disease, before the exudation takes place and the false membrane forms, the bacteria are present; they spread themselves over the membrane, work their way down between the cells of the epithelial layer, and derange the anatomical relation of those cells by forcing them from their proper places; they find their way into blood and lymph vessels, and mechanically dam up those vessels, thereby deranging nutrition, causing an exudation of serum and rupture of the walls of the capillary vessels. Oertel says: "I believe I have proved, by a series of experiments, that diphtheria begins as a local disease, and develops afterward into a general one; and that, moreover, the general infection is kept up by the local one." Dr. Austin Flint* regards diphtheria as a constitutional disease, and

* Theory and Practice of Medicine.

the diphtheritic affection as the local expression of a special morbid condition of the system. He is not definite as to the active agent by which the disease is brought into being; in other words, as to the exciting cause of the disease. Niemeyer says:† "Diphtheria belongs among the infectious diseases, and even among those that are most typically contagious. The miasmatic origin of the disease is doubtful." Niemeyer does not tell us how the disease is brought about. Professor Delafield, of New York, considers diphtheria as a compound disease, like epidemic influenza, cerebro-spinal meningitis, and a few others, made up in its pathology of an essential fever and a local inflammation. Dr. J. Lewis Smith says:‡ "The specific principle of diphtheria, in all probability, enters the blood in ordinary cases through the lungs; and after an incubative period, which varies from a few hours to seven or eight days, produces the symptoms which characterize the disease." Dr. Thoersen, of Christiana, Norway, says in an article on the nature of diphtheria, published in 1866: "My opinion is that the disorder is a primary blood disease, and the diphtheritic exudation is nothing but a casting from the surface of the affected tissue, which through the impression of the poison, has suffered such changes as belongs to an ordinary gangrenous process. The deeper and more intense the impression made by the poison, the more has to be cast off, and the thicker the patches must necessarily be." To us it appears that the first changes are manifested in the blood, and from these the nervous centers are deprived of their proper support. The morbid alteration of the blood may be brought about by the contagion of the poison which produces the poison itself, and therefore we may view them as the cause, and the changes which they produce as the results of this morbid impression upon the vital fluid.

These poisons effect a deprivation of the circulating fluid by the introduction of matter from without, which acts as a ferment, exciting chemical changes in the constitution of the blood, so that its whole character is changed and its vital

† Theory and Practice of Medicine.

‡ American Journal of Medical Sciences, October, 1877.

properties diminished. The severity of the disease depends upon the degree of this morbid impression and the extent of the changes which the blood has undergone. If the disease was of an inflammatory class, we should observe very different changes of a constitutional nature from those which have fallen under our notice. The treatment which is appropriate for inflammation, fails entirely in diphtheria. The membranous deposit comes from the depraved or changed condition of the blood, trying to eliminate the morbid poison.

DIPHTHERIA AND CROUP.

In 1765, Dr. Home, of England, first introduced the term croup into medical literature. He first drew attention to the fact that the formation of a false membrane in the trachea and larnyx is essential to the disease, and constitutes the source of danger. Dr. Home's description of croup was not only accepted by most of the physicians of England, but also by many in Europe.

The term croup, however, is a most unfortunate one; for in the first place it has left confusion in the minds of the people, who frequently do not distinguish between the false form, or spasmodic laryngitis, and the membranous form; and it has also been a source of confusion to the profession, for the term croupous, as opposed to diphtheritic, has at one time been used to describe a clinical difference, and at another an anatomical one.

The majority of practitioners, at the present day, believe in the identity of croup and diphtheria; but a very respectable and equally intelligent minority are unable to support this opinion. There is no doubt that many advocates of the existence of true croup include undoubted cases of diphtheria in their category; while cases of supposed croup, on the other hand, are included in the categories of those of the contrary opinion. Hence much of the existing confusion as to what is a case of diphtheria, and what a case of croup. If we are willing to admit, as I think we safely can, that a patient with diphtheria may contract croup, and a patient with croup may contract diphtheria, this obscurity disappears in part. It has been alleged that the clinical histories of

diphtheria and croup are very different. So, too, is the clinical history of malignant pustule very different from that of carbuncular fever. No one, however, would infer that they were nosologically distinct. It is, on the contrary, universally recognized that these two affections are but separate manifestations of one and the same disease, which may be associated, succeed each other, or exist alone. With Bretonneau, nearly all French writers regard croup and diphtheria as identical. Since the time of Bretonneau, an abundance of clinical facts have been collected, which have been used by writers to show that there is a marked contrast between the two diseases. Virchow made the apparent differences more striking by emphasizing the fact, as he stated it, that in croup the exudation lay upon the surface of the laryngeal mucous membrane, while in diphtheria it not only covered the surface, but actually invaded the mucous membrane itself, and subsequently, from lack of nourishment, the membrane was apt to become necrotic. Wagner, on the other hand, claimed that there was no such sharp anatomical distinction between the two exudations, and they were only alike in that the exudation of croup was confined to the throat, while in diphtheria it involved the other air passages. Oertel* holds that the separation of the two diseases—membranous croup and diphtheria based on anatomical and pathological grounds—is impossible, for in the severest forms of diphtheria, such as those that are followed by extensive paralysis, the so-called croupous exudations have been found lying freely on the surface of the mucous membrane. He says that in the early stages, a certain diagnosis will be impossible.

It is certain, as I have seen it in my own experience, that under the same endemic and epidemic influences, a case of catarrh, a case of croup, a case of diphtheria, and a case of follicular inflammation of the tonsils, may appear in the same family, and in the same week, and that catarrh on the one side and diphtheria on the other, are but the starting and terminating points between which all the different shapes and forms may be registered according to their dignity, their

* Ziemssen's Cyclopœdia.

modification depending on individual, local, endemic and epidemic influences. In the February number, 1871, of Virchow's Archives, Dr. Franz Hartman advocates the idea that croup and diphtheria are not distinct diseases, but different grades of one and the same process. Croup, therefore, indicates the existence of inflammation not so severe as that which gives rise to diphtheria, and affects more frequently the larynx than the pharynx, because the mucous membrane of the latter is of much looser texture than that of the former. From our present standpoint, whenever we find an idiopathic membraneous inflammation of the larynx, it seems proper to regard it as a case of diphtheria. It certainly would be rash to allow the precautions considered necessary in cases of diphtheria to be neglected.

DIPHTHERIA AND SCARLET FEVER.

The exact relation which exists between diphtheria and scarlet fever has been a much debated question. By some persons the two affections, notwithstanding certain points of strong resemblance, are regarded as essentially different. By others, diphtheria is regarded as a form of scarlet fever, in which the throat affection is unaccompanied by the eruption which usually characterizes it. It is very evident that there is some intimate relationship existing between the diseases in question; one so glides into the other that we have the singular instance of two disorders, generally described as distinctly separate, existing at the same time.

Dr. Anderson, of England, who has given considerable attention to this subject, remarks that in every case of diphtheria he has seen, he has been able to trace the actual presence of scarlet fever in the house or in the immediate neighborhood.

I have had under my care in the same family, at one time, two or three well-marked cases of scarlatina, and also several as well-defined cases of diphtheria, all children, and each disease running its definite course without conflicting with the other. In volume second of Ziemssen's Cyclopœdia, a work containing the cream of German medical literature, Professor Thomas says that diphtheria can be a complication of the

mildest as well as the severest forms of scarlatinous throat affections. After scarlatina has already existed for several days, the throat symptoms suddenly become aggravated by the occurrence of diphtheria. In like manner scarlatina may, at any time, complicate diphtheria. The sequelæ following scarlatina are dropsy, albuminuria, otorrhœa, diarrhœa, rheumatism, swelling of the cervical glands, followed by abscess, endocarditis, paralysis, heart clot, impairment of vision, deafness, aphasia. Precisely the same sequelæ follow diphtheria. I have seen every one of the sequelæ I have named follow both diseases. It is evident, however, that the two diseases are distinct, and yet that some very definite and close connection exists between them. It is not easy to point out wherein the bond consists; but it is possible that the relations of some other ferments may throw some light on the subject.

SYMPTOMS AND COURSE OF DIPHTHERIA.

Previous to an epidemic of diphtheria other throat affections are usually prevalent, such as tonsillitis, ulcerated sore throat, etc. As in other zymotic diseases, the symptoms vary greatly in intensity in different cases, so much so that some writers have instituted several varieties of the disease. As a general thing, diphtheria is more severe and fatal, and its symptoms more violent in the beginning, than when the epidemic influence is passing off. The chosen subjects of the disease are those in whom there exists some constitutional cachexia—the weakly, the scrofulous, the offspring of sickly and delicate parents and bottle-fed infants, and all those where the morbid condition is dependent upon defective assimilation and sanguification, rendering the blood deficient in organic and nutritious matters. Persons of all ages are liable to the disease, but it is much more frequent in children between the period of weaning and the tenth year of life, than in adolescents and adults. It seldom attacks individuals in absolutely first-rate health, while living under good hygienic influences, unless they have been more or less directly exposed to contagion from contact with a diphtheritic patient, or with emanations from his body, whether contained

in clothing, utensils, excretæ, or the exudation itself. The period of incubation, or the period intervening between exposure to the infection and the manifestation of the disease, varies from two to fourteen days. A marked point of difference relates to the development of the disease. A mild commencement frequently ushers in a fatal form of the disease. In fact, the initiatory symptoms have no definite relation to the future severity of the disease, or to the parts which are to be the seat of the inflammatory exudation. There is usually a degree of chilliness, with rigors, often slight, succeeded by more or less fever, headache, languor, and loss of appetite. I have noticed in a number of instances that the day before the lassitude appeared, the child was in the best possible health, and that the mother or nurse said that they had never known the little one to feel and appear so well. Pain in the ear is mentioned by Bretonneau as an early symptom in one of his cases,* and by Dr. L. N. Beardsley, of Milford, Conn., as the first symptom in almost all the cases he saw in an epidemic; occurring a day or two before any other complaint was made, and before any evidence of exudation could be detected in the throat.

In cases in which the initiatory febrile condition exists, there is elevation of the body temperature, greater at night than during the day time. Marked elevation of temperature is usually indicative of severity, heralding a case in which the local manifestation is likely to extend to the respiratory tract. A more moderate increase of temperature, on the contrary, is by no means indicative of a milder form of the affection, or less liability of this extention of the exudation. The temperature often rises to 105°–107°, although in the majority of cases it is less than in scarlet fever. Bleeding from the nose is a common symptom and indicative of blood change. Sometimes the disease begins with a convulsion—or there may be several—indicating cerebral complication. The pulse is full and abnormally frequent, and usually unassociated with corresponding increase of the number of respirations. Aside from frequency, the pulse is soft or compressible, not denot-

* Memoirs on Diphtheria: Sydenham Soc., London, 1859, p. 201.

ing augmented power of the heart's action. In mild cases it may not exceed 100. Usually it is 120–130, and in the malignant form frequently reaches 140. Stupor is a prominent symptom in bad cases during the first day or two, and it is a most unfavorable sign. It is not yet known whether coma and convulsions, occurring in this disease, are due to uræmia.

Restlessness is always an alarming symptom, as indicating irritation of the brain and nervous centers from poisoned blood. It is the surest criterion of the amount of poison in the system, and where it is extreme and persistent throughout, the disease generally points to a fatal termination. The tongue, though moist in some cases, is frequently covered with a thick, dry coating. The desire for food is either notably diminished or lost. The disease has no characteristic eruption, although an efflorescence is sometimes observed upon the surface when the temperature of the skin is raised. The rash does not differ from ordinary erythema, so common in the febrile and inflammatory affections of infancy and early childhood. Diarrhœa is not uncommon, and is a symptom of bad omen. An early symptom is nausea and vomiting, which may continue for hours or even throughout the sickness. This is evidently due to congestion of the brain and is the result of reflex action. The urine is scanty, of high specific gravity, and acid in reaction, with increase of urea; microscopic examination usually affording evidence of tube casts, and, in occasional instances, of blood-corpuscles; while uric acid, the urates, oxalates, and sometimes phosphates are to be detected in the sediment. The most interesting and important change, however, in the constitution of the urine is the occurrence of albumen in it. This element was first discovered by Dr. Wade, of Birmingham, England, in 1857.* Shortly after this, during the researches on this disease at Paris, MM. Bouchut and Empis made a similar discovery. Albuminuria did not exist in every case examined, but it was seen in twelve out of fifteen cases. Both of these observers attach great importance to this renal complication, as affording an anatomical explanation of the cause of death,

* Observations on Diphtheria, by W. F. Wade, B. A. etc., 1858.

when this can not be attributed to either of the other modes, viz., asphyxia or general poisoning. In forty-eight cases studied by Professor Flint, of New York, albumen was found in nineteen. The presence of albumen does not seem to depend upon a blood poison, but upon pathological changes which take place in the kidneys themselves; and these changes may, according to Oertel, without difficulty, be traced to the action of bacteria. In those cases which have terminated fatally in consequence of blood poisoning, the kidneys were found to be lividly congested, the cortex and medulla deeply reddened, and in color hardly distinguishable the one from the other. While on the other hand, in the cases in which the patients, especially children, have died by suffocation, the kidneys were found but slightly affected. Bacteria are found in all the kidneys in which pathological changes have taken place as a result of diphtheria. Albumen usually appears early; sometimes it is noticed about the time of the onset of the laryngeal symptoms, sometimes not until a later period, even as late as the second or third week. The quantity often varies greatly from day to day, sometimes amounting to from one to two or three drachms in twenty-four hours; and although it usually remains throughout the disease, it may disappear and reappear again and again, its traces gradually becoming fainter during convalescence. The course of diptheria lacks uniformity in fatal not less than in favorable cases. In fatal cases the duration may fall short of a week, death sometimes taking place within forty-eight hours. On the other hand, the illness may continue for an indefinite period beyond the maximum duration of the career of the disease, owing to consecutive affections or sequels. During the first week of the disease, in cases not directly fatal from innervation or collapse, the danger is from the larynx, and if the larynx remains unaffected, the danger then lies in the exhaustion and deficiency of nerve force or energy; conditions which may ensue even in connection with but a trifling amount of inflammation and exudation in the throat. Tumefaction of submastoids, submaxillary, and cervical glands is regarded as proportionately indicative of the severity of the

case. During all epidemics of diphtheria there are many cases which are inevitably fatal from the beginning, the system having received such an overcharge of the poison as to render all human efforts unavailing. Physicians are more frequently deceived by the prognostic signs in diphtheria than in almost any other disease. I have known physicians to give a favorable prognosis, while death occurred from some unseen or unsuspected cause. The character of the epidemic, the hygienic conditions by which the patient is surrounded, and the opportunity that may exist for improving those hygienic conditions, all exert more or less influence on the general prognosis. Intense pharyngitis, an extensive pseudo-membrane, and cervical cellulitus and adenitis, indicate a form of the disease, which usually proves fatal in the robust, as well as the weakly. When the inflammation extends to the larnyx, and the phenomena of croup arise, there is slight prospect of recovery.

Dr. J. Lewis Smith says:* "When the croupy cough, voice, and expiration are observed, he will seldom err, who predicts a fatal result within a week, and often death follows in two or three days." This, however, has not been my experience. In many cases, after the active symptoms have somewhat abated, the result for days or even weeks is uncertain on account of the anæmia. Mild cases in which there is but little deposit, may prove fatal by blood-poisoning, or by collapse before the local manifestation has become fully developed. Nasal diphtheria is a very grave complication. Death in diphtheria may result from: 1, Diphtheritic blood-poisoning. 2, From septic blood-poisoning, produced by absorption from the under surface of the decomposing pseudo-membrane. 3, From an invasion of the larynx. Professor Flint says:† "Of the cases in which the air-passages become involved, the vast majority end fatally." The danger from this source progressively diminishes after the first week. 4, Uræmia. 5, Sudden failure of the heart's action, either from the anæmia and general feebleness, as from gran-

* Treatise on the Diseases of Children, Phil., 1869, p. 455.

† Principles and Practice of Medicine, p. 819.

ulo-fatty degeneration of the muscular fibres of the heart. A case occurred in my practice, of a girl, eleven years old, who, two weeks after recovery from an attack of diphtheria, attempted to run up stairs, and died in a few moments after reaching the top. Another case in my practice died suddenly from an over-exertion in swinging, shortly after recovering from an attack of diphtheria. Professor Flint refers to two cases in his practice. 6, Suddenly developed passive congestion and ædema of the lungs, probably due to feebleness of the heart's action, or to paralysis of the respiratory muscles. Dr. J. F. Meigs, among others, has reported‡ cases in which sudden or unexpected death was due to the formation of clots in the right cavities of the heart. A girl, thirteen years old, who was under my care during a very severe attack of diphtheria, made a good recovery, and several weeks afterwards was choked to death by a piece of bread, owing to paralysis of the muscles of deglutition.

LOCAL SYMPTOMS.

Very often the first symptom which a child complains of is that the throat feels as though there was a bone or stick in it. This slight soreness or fullness does not ordinarily become any more severe during the course of the disease. The absence or mildness of local symptoms is the main reason why the disease is so often overlooked in its first stages. In numerous instances in my practice, considerable membranous exudations already existed when there had been no manifestation of pain or soreness in the throat. This has taught me to examine the throat of every child whose illness was not otherwise plainly accounted for. The color of the faucial mucous membrane is usually of a deep, bright red, but in other cases it is a dusky red, which indicates a vitiated state of the blood, and is an unfavorable prognostic sign. The submaxillary and cervical glands of the side the most affected soon become swollen and tender, or even painful to moderate pressure, but they are not tense or hard, except in very severe cases. I am inclined to think that the enlargement of the glands is proportionate to the severity and depth

‡ American Journal of Medical Sciences, April, 1864, p. 305.

of the local lesion. After a few hours in some cases, and in others in the course of a day, isolated specks or patches, whitish or grayish in color, sometimes soon acquiring a yellow tinge, and soft in consistence, make their appearance, and rapidly increase in size, so that by their growth and coalescence, they may cover both tonsils within a day or two. It increases in thickness and opacity coincidently with its extent in surface, becoming darker with age, and with incorporation of the coloring matters of effused blood. Attempts to detach it from the mucous membrane lacerates the engorged blood vessels, producing a free flow of blood. It does not ordinarily attain a greater thickness than one-eighth to one-sixth of an inch. The deposit may remain limited to a circumscribed locality, or it may spread over the entire pharynx; sometimes descending into the larynx, and thence down the trachea and even along the bronchial tubes. When the larynx and trachea are affected, we have the symptoms of membranous croup, superadded to the already alarming condition of the patient. The membrane also mounts upward along the posterior nares, and soon takes possession of the nasal passages, and may even protrude at the nostrils. In some instances the tongue, the gums, and the inside of the cheeks become covered with the characteristic deposit. The deposit remains on the mucous membrane for several days—from three to six in favorable cases. Its separation is promoted by the secretions underneath, especially by pus, which is formed in abundance between it and the surface on which it lies. During the height of the inflammation, it is surprising often to see with what rapidity the diphtheritic membrane returns when removed by force. A few hours often suffice so restore it as firm and extensive as before the interference. The breath in malignant cases is often very offensive, having a gangrenous odor. I have often noticed that the membrane has first formed on the left tonsil or left side of the throat. It occurs also on the surface of the body when the skin has been blistered or abraded, and upon the edges of the wound produced by tracheotomy. In one of my cases the membrane made its appearance first on the

right cheek, where the skin had been abraded. The abraded surface was covered with a whitish membrane, the whole cheek and skin red, swollen and inflamed.

The glands of the neck were very much enlarged. The symptoms of laryngeal implication are hoarseness, cough, and difficulty in breathing. Laryngoscopic examination usually reveals intense congestion and tumefaction of the larynx, more or less of the borders, and interior of which are covered with the exudation. The anatomical character, as regards the larynx and trachea in diphtheria, when they are the seat of fibrinous exudation, is identical with that of croup. Respiration is impeded, the face becomes palid, the lips and nails blue, and the extremities cool. The child struggles for breath, is restless, alarmed, and sometimes clutches at its throat, and exhibits all the evidences of commencing asphyxia. When a portion of the membrane is expectorated by great effort on the part of the child, or by the treatment, there is apparently for some hours a great improvement, but it is only in exceptional cases that the plastic formation is not speedily and fully re-produced. In favorable cases the symptoms show evidence of amelioration from the sixth to the twelfth day. This complication may occur at any period of the disease, or during convalescence. In fact, for several weeks there is a peculiar liability to croup, upon the least exposure to cold and dampness. The *sequelæ* of diphtheria form an important part of clinical history. Where there is a large amount of albumen excreted from the kidneys, there is necessarily impoverishment of the blood. This condition leaves the patient for weeks with a pale and cachectic appearance. The blood evidently is profoundly altered, so that there is a deficiency of blood-disks. Anæmia and general debility are apt to persist a considerable period. Certain specific sequelæ of a nervous character are apt to follow diphtheria, and they are indicative of a profound morbid impression on the nervous system. These are paralysis of certain of the muscles concerned in deglutition and phonation; occasionally of the muscles of the heart; of the eye, causing presbyopia, myopia, and amaurosis; of the limbs and of the

other portions of the body; in some instances amounting to general paralysis. In some the muscles of the bladder have been paralyzed, leading to retention of the urine, and difficulty in passing it. Taste, smelling and hearing are often affected. Laryngeal paralysis, favoring the escape of food into the air passages, necessitate the use of the stomach tube. Numerous cases are mentioned similar to the previously-mentioned case of my own, in which sudden death was caused by the passage of food into the larynx. These sequelæ take place in cases of mild as well as severe diphtheria. A majority of those affected with paralysis recover, although few regain the complete use of their muscles in less than one month, and many do not under several months. Purpura, with an irregular mottling of the skin, with hæmorrhage from various outlets of the body, is also a complication. Cardiac thrombosis is a tolerably frequent complication of diphtheria.* The elastic fibrinous coagula entwined in the valves, or which adhere to the walls of the heart, are formed before death.

TREATMENT.

There is no subject in modern therapeutics upon which medical authorities differ so essentially as in the treatment of diphtheria. It is remarkable that there is so little argeement in the profession in regard to the medicinal treatment of the disease, since it has been under almost constant observation in this country for over twenty years. At first, experimentation and great uncertainty constituted the rule and result of all attempts at treatment, and very many indeed were the missteps whieh were made before any degree of rational progress had been reached.

During the years of its first appearance, I have no doubt but that much of the fatality of the disease was directly owing to bad treatment—purgatives, leeches, mercurilization, the indiscriminate use of caustics, pustulation with tartar emetic, and croton oil blisters. The wide discrepancy which exists in reference to the proper therapeutic measures, receives par-

* Thrombose Cardiaque dans la Diphtherie. Beverly Robinson, M. D., Paris, 1873.

tial explanation from the fact of a wide difference of opinion as to the nature of diphtheria and its mode of commencement, but is more due to the fact that statistics of its treatment afford very unreliable, and often conflicting data by which to determine the proper therapeutic measures. The treatment of diphtheria, like the treatment of most other diseases, is dependent on a multitude of circumstances; on the condition of the patient when seen by the physician—on the peculiar situation in which he may be placed as regards wet or dry localities—on constitutional tendencies, etc. As diphtheria is always serious, every case demands close attention, and frequent and careful examination, with the aid of all the resources at our disposal; and the treatment, to be at all effectual in hazardous cases, must be assiduous and free from vacillation. Diphtheria is a disease that is not controllable by any known specific remedy. Nutritive, supporting and stimulating treatment constitutionally, is now almost universally recognized as absolutely necessary; and depleting measures, even of the mildest character, are almost universally avoided. Several objects must be kept prominently in view during the entire treatment. Chief among these is efficient sustenance of the patient, and the prompt discharge of the morbid products as they accumulate. The diet should be concentrated, highly nutritious, and embracing the necessary variety of alimentary principles. Milk and the animal essences meet these requirements. Strong beef tea, mutton broth, strained oatmeal-gruel with milk, the yolks of eggs, are useful, and should be given at regular intervals, and in as large quantities as the stomach will tolerate. A serious difficulty in the treatment often arises from the great repugnance to nutriment, and sometimes from the persistence of vomiting; then recourse must be had to the absorbing powers of the rectum. One of my patients, three years old, who could not be made to swallow, was treated entirely by the rectum, and recovered. Not only the medicine, but an ounce of beef tea, alternated with cream, was given by enema every four hours, for four days and five nights. For drink, ice water in small quantity at a time; or, if there be much

redness and swelling about the fauces, pounded ice in teaspoonful doses, iced milk, etc. The sick room should be thoroughly aired, and the body and bed clothing should be changed daily when it is possible. There is not the least danger of "catching cold" in bed if the patient is well clothed. The bed should be so situated that the fresh air from out of doors may blow over it and thoroughly dilute the foul air of the room. From the first, although the pulse is strong, the surface hot and features flushed, all measures of a depressing nature must be carefully avoided. The danger is not from the inflammatory manifestations of the disease, but from the general condition which tends to destroy life by asthemia. Cardiac sedatives should not be administered, since diphtheria, if it continues a few days, is attended by evident symptoms of prostration, whatever the mode of commencement. A warm foot-bath, with mustard, will tend to equalize the circulation, and moderate the fever. Sometimes the case is ushered in with nausea and vomiting, and when these troublesome symptoms continue, either the aromatic spirits of ammonia, or from five drops to a half teaspoonful of the following:

℞. Chloroform;
Tinct. opii;
Spirit camphoræ;
Spirit ammon. aromat., āā f. ℥iss;
Creosoti gtt. iij;
Olei cinnamon, gtt. vii;
Alcohol f. ℥ij. M.

In a tablespoonful of ice water, should be administered every half hour.

If constipation exist at the same time, a stimulating enema should be employed. Several external applications have been applied with some benefit to the enlarged and tender glands about the neck. Warm camphorated oil, poultices of hops and vinegar, etc., or what is better, a warm wet cloth, folded in a piece of oil silk, should be applied around the neck, and this method of local bathing and sweating continued without intermission until the symptoms are controlled

or entirely give way. Chlorate of potash, and tincture of the chloride of iron, are the two remedies which have been most employed in this country and in Europe, on account of their supposed local effect on the inflamed surface, and the latter on account of its eminently tonic properties. Chlorate of potash was first successfully applied in croup, by Chaussier, in 1819. It was brought prominently into notice by Dr. Isambert, in his inaugural thesis.* It was then endorsed by Trousseau. Since then it has been used, and good results obtained in diphtheria and pseudo-membranous croup. The use of chlorate of postash in diphtheria and membranous croup has some advantages not possessed by other remedies. All local treatment, except by the solution itself, is unnecessary, for that it has solvent action on the membrane, has been proved by M. Barthez.† Another advantage is that other remedies may be used in connection with it. Dr. Drysdale‡ considers chlorate of potash "quite as much a specific, if we may use such a word, for this disease, as is quinine in intermittents, or mercury in syphilis." His formula is:

℞. Pulv. potassæ chlorate, ℥ij;
Syr. limon, fl. ℥i;
Aquæ, fl. ℥iij. M.

On the other hand, Dr. Cohen‖ doubts its efficacy as a reliable remedy against the disease, or against its local manifestation. Furthermore, its inordinate use may irritate the kidneys, a result to be avoided in view of the significance of albuminuria as an unfavorable manifestation. Preparations of iron, principally the tincture of the chloride of iron, first used for diphtheria by Dr. Vess, of Birmingham, England, is highly extolled for its virtues in this disease. The action of chlorate of potash and iron in diphtheria seems to be both local and general. Locally, it acts as astringent and disin-

* Etudes Chimiques, Physiologiques, et Cliniques, sur l'Emploi Thèrapeutique du Chlorate de Potasæ, spècialement dans les Affections Diphtheritiques, Paris, 1856.

† American Journal of Medical Sciences, October, 1858, p. 513.

‡ Medical and Surgical Reporter, March 17, 1877, p. 239.

‖ N. Y. Medical Record, March 4, 1876, p. 152.

fectant, causing contraction of the capillaries of the throat, and destroying the life of the diphtheritic exudation. Generally, it acts as a stimulant and disinfectant. By giving oxygen and chlorine to the blood, it stimulates the vital powers, and destroys the poison of diphtheria. Dr. J. Lewis Smith§ considers the following mixture one of the very best for ordinary diphtheria:

℞. Tinct. ferri chloridi, ℥i;
Potass. chlorat, ℥i;
Syr. simplic, ℥ij. M.

Dose—One teaspoonful every two hours to a child of three years. Dr. Rodman, of Frankfort, Ky.,¶ uses the following for a child five years old:

℞. Tinct. ferri chloridi;
Potass. chloratis, āā ℥ss.;
Syrup limonis;
Aq. destillat. āā ℥iij. M.

Dose—One teaspoonful every two hours. The following two formulas are prescribed by Dr. C. E. Billington, of New York, and were used by him in one hundred and seventy-nine cases:

℞. Tinct. ferri chloridi, fl. ℥jss;
Glycerinæ;
Aquæ, āā fl. ℥j. M.

Dose—One teaspoonful every hour. For children under three years, only one drachm of the tincture of iron in this mixture is sufficient. This combination tastes pleasantly. Dr. Billington, in his first cases, accompanied the above prescription with the following:

℞. Potassæ chloratis, ℥ss.—℥j;
Glycerinæ, fl. ℥ss;
Aquæ calcis, fl. ℥ijss. M.

Dose—One teaspoonful every hour. This is given alternately with the preceding one, with half hour intervals between the two. The frequency of the dose is insisted on, except during the night, when the patient is allowed to sleep

§ Diseases of Infancy and Childhood, p. 458.
¶ N. Y. Medical Record, January 26, 1878, p. 62.

an hour or two at a time if he will. Chlorate of potash can be given in the form of lozenges, containing a grain or more of the salt each, administered as frequently as may be necessary to introduce the desired quantity of the chlorate, usually from thirty grains to a drachm or so in the twenty-four hours. Chlorate of potash is frequently used in the form of chlorine mixture, which contains an equal number of grains of the salt, and of drops of muriatic acid in simple or aromatic water; infusion of quassia and the like, with the addition of some syrup, is desirable.

Salicylic acid, which, though found in the willow, is made from carbolic acid, and is a most valuable antiseptic, is being used very extensively in diphtheria. Dr. Letzerich* made a number of experiments in regard to the action of salicylic acid upon the organisms found in diphtheritic deposits, the result showing that this acid possesses the power of killing the germs in question. In several cases Dr. Letzerich used the following gargle:

℞. Acidi salicylici, grs. xv;
Solve in spts. Vin. Rect. m. xxx;
Aquæ destillatæ, ad ℥viii. M.

Under the frequent use of this gargle, the diphtheritic membrane disappeared from the throat entirely in from two to four days. In very severe cases four and a half grains of the powder, with an equal quantity of sugar were administered every two hours. Dr. Billington, of New York, in his later cases, instead of his mixture of chlorate of potash, has used the following:

℞. Acidi salicylici, gr. x.—ʒj;
Sodæ sulphitis, ℥ss.—℥j;
Glycerinæ, fl. ℥ss;
Aquæ, fl. ℥ijss. M.

Dose—One teaspoonful every hour, alternating at half-hour intervals, with the iron mixture. The sulphite of soda is used to dissolve the salicylic acid. Theoretically the combination of two such septicides should be especially effective. A writer in the *Pharmaceutische Zietung*, for November,

* Canada Lancet, March, 1878, p. 221.

1875, states that four grains of salicylic acid will prevent the development of fungi in three pounds of fresh lime juice. A trial made under similar conditions without salicylic acid resulted in the formation of mold in ten days. Dr. Wagner, of Freiburg, Germany, gives salicylic acid in water or wine, one and one-half to four and one-half grains every two hours. He reports fifteen cases of diphtheria cured by this method. Alcohol has been used very extensively in diphtheria. Dr. E. N. Chapman, of Brooklyn, N. Y.,† says: "Alcohol counteracts, neutralizes or destroys the poison, whatever it may be, acting, in fact, like a true antidote, if promptly and liberally given." On the other hand, Dr. C. E. Billington, of New York, says:‡ "Stimulants should not be indiscriminately used in diphtheria. I have treated the great majority of cases without them, and believe this to have been an important element of my success. When unnecessarily or excessively employed they may be very injurious." M. Sanné, in his treatise on diphtheria, says: "De tous les antiseptiques donnes à l'interieur, l'alcool est de beaucoup le plus sur. Plus l'infection est prononcée, plus il faut insister sur les composés alcooliques." Under ordinary conditions, alcohol is a stimulant; but in diphtheria it lacks this property—a quantity which would in health induce intoxication having no excitant effect; it is thrown off in the breath; but in diphtheria, unless the dose is disproportionately large, no odor is perceptible until the disease begins to yield. Dr. J. Lewis Smith, of New York,‖ reports a case in which nearly a bottle of brandy was given in less than twenty-four hours, without any ill effect, and an apparent good result on the general course of the disease. In the use of alcoholic stimulants the physician is to be guided by the indications, and by carefully watching the immediate effects.

Professor Polli, of Milan, advocates the use of the sulphites, in the belief that the sulphurus acid set free in the system by their decomposition, prevents, or tends to pre-

† Buffalo Medical and Surgical Journal, October, 1877.

‡ Diphtheria and its Treatment, New York, 1876, p. 15.

‖ American Journal of Medical Sciences, October, 1877, p. 352.

vent, the supposed fermentative processes going on in the economy, and by this means to ameliorate, if not entirely control the morbid action. Experiments have shown that this agent does check fermentation without the system, and the theory of Polli possesses a degree of plausibility. The most eligible of the sulphites is the bisulphite of soda, since this gives a large amount of sulphurus acid, and has no purgative effect, like some of the sulphites. The following formula is given by Professor J. Lewis Smith:

℞. Sodæ bisulphit, ʒj—ij;
Tinct. aurant, ʒij;
Aquæ, ʒx. M.

Dose—One teaspoonful every two hours. Quinia is much used as a tonic in diphtheria, as well as for its action upon the nervous system, and as an apyretic in fever. It may be combined with the tincture of iron in the form of the hydrochlorate; or, if that is not accessible, in the usual form of sulphate. Dr. Zum Sande, of Lingen, § believes that nothing is so successful as quinine to add to the blood some material which would prevent the development of organisms. There is great difference of opinion in regard to the quantity which is required each day, or the size and frequency of the doses. It is sometimes administered in small doses, as one grain every three or four hours, for its supposed tonic effect; and again in doses sufficiently large to produce an antipyretic effect, as from twenty to forty grains per day. I believe that quinine, as a rule, in the case of young children, is worse than useless. By its bitterness, it causes frequent struggles and crying, and nervous irritation, febrile excitement and exhaustion, are frequently promoted. Dr. Billington has seen cases where the struggling and crying has caused diphtheretic material or irritating medicine to be drawn into the larynx, thus setting up croup. I consider the compound tincture of cinchona much better as a tonic. Cubebs was first brought forward as a remedy by Dr. Trideau, of Andoville, France,¶ who reported twenty-six cases cured by its use. Dr. C.

§ Journal fur Kinderkrankheiten, August, 1871.

¶ Bulletin General de Therapeutique.

Paul, of Paris, had an extract of cubebs, made with water, alcohol and ether prepared, and mixed one part of this with seven of sugar, and one of gum arabic. A teaspoonful of this, containing twenty-five grammes of extract, dissolved in three or four tablespoonfuls of water, made a sweet aromatic solution, which was taken by the child without repugnance. One severe case was treated almost entirely with this remedy. This treatment has received the commendation of many observers, who followed Trideau in its use. It is supposed that the elimination of this remedy by respiratory tract enables it to exert a special topical influence on the bronchial mucous membrane. The hyposulphate of soda has been used internally, in the hope that in its decomposition the system may be favorably subjected to the influence of sulphurus acid upon low organisms. It is administered in doses of from one to three grains to children, and from eight to ten grains to adults, repeated every three or four hours. Dr. Burton, of Fultonville, New York,* used it with remarkable success. I have treated one hundred and thirty-three cases with the tincture of the chloride of iron and chlorate of potash, ten to twenty drops of the one and three to six grains of the other, given in mixture every four hours, diluted with water. Alternating with the above, I used in many cases the sulpho-carbolate of soda, in doses of five to fifteen grains every four hours. In more recent cases, in addition to the above, or in place of the sulpho-carbolate of soda, I have used the following:

℞. Fl. ext. Pinus Canadensis, ℥ij;
Aquæ fervens, ℥iv. M.

Dose—One teaspoonful as a gargle, when patient was old enough, after which let the patient swallow one teaspoonful. Use in this way every hour. Where there is great nervous irritability and sleeplessness, I give:

℞. Tinct. gelseminum, gtt. x.—xxx;
Aquæ, ℥iij.—iv. M.

Dose—One teaspoonful every two or three hours. Tepid baths were also given. As a diet, milk or milk punch, as

* Buffalo Medical and Surgical Journal, September, 1877.

much as the stomach will retain. Whenever practicable, I I use the following, applied to the throat in the form of a spray:

℞. Acidi carbolici, m. xv;
Aquæ calcis, fl. ℥ vj. M.

The early and thorough use of the nasal syringe, I believe has saved many cases. The nasal passages and pharynx should be thoroughly cleansed; first with tepid salt water, and then one or two syringefuls in each nostril of the above mixture.

In one hundred and thirty-three cases of diphtheria in my practice during a period of nine months, one hundred and fifteen recovered, and eighteen died. In regard to the period of incubation, in eighty cases I have been able to approximate closely the day of exposure. In them I found the extremes to be two and fourteen days; the mean, 5⅔. Of those under twenty, the mean was 4¾; over twenty, 7⅓ days. Of those attacked, two years old and under, 10 males and 13 females; from 3 to 10, 42 males, 48 females; from 11 to 20, 2 males, 10 females; over 20, 3 males, 5 females. Total, 57 males, 76 females. The male cases ending in recovery had an average continuance of seven days; ending in death five days, while the female cases recovering averaged eight, and those dying ten days.

Of the eighteen who died under my care, six were either moribund when first seen, or were hopeless cases of laryngeal croup, and were seen only once or twice before death. In addition to the eighteen deaths, four others died; one from getting choked with a piece of bread, two from anæmia, and one from uræmia, from one to three months after the recovery from diphtheria. In the town of Meriden there were altogether one hundred and nineteen deaths from diphtheria during the epidemic of 1875–6. In the epidemic of 1862–3 there were seventy-three deaths in Meriden from diphtheria.

LOCAL TREATMENT.

With regard to the treatment of the local manifestations, there is great difference of opinion. Many eminent practitioners discard all local treatment whatever. A physician

recently recommended* nitrate of silver, one-half ounce, to one ounce and a half of water, to be applied by a sponge. If this did not remove the membrane, then use muriatic acid or nitric acid and honey, equal parts. He says: "We should at least have two assistants, so as to hold the head well thrown back, and the hands and feet secured." This treatment is simply barbarous. The pain and restlessness caused by such treatment weakens the child, and does more harm than good. Harshness towards a patient is always to be condemned, and in no disease more than this. Dr. W. M. Turner, of Petersburg, Va.,† says: "I studiously avoid probangs; I look upon them as instruments of torture and of death. I *know* I have seen cases which died from the constant mopping to which the throat was subjected." Local treatment was employed by Aretæus, centuries ago, and then re-introduced into practice by Von Swieten, and again by Bretonneau; it has been abandoned and resumed again and again. When applications are made, they should be made either with a large camel's hair pencil, or, what is better for most of the mixtures employed, with the atomizer. Tincture of the chloride of iron, first recommended by Dr. Heslop, of Birmingham, England,‡ and by Drs. Gigot and Jodin,‖ is at present the favorite topical remedy with most practitioners.

The sulphate of iron (Monsel's salt) in powder, has been found the most efficacious remedy by some practitioners.§ Nitrate of silver, as a local remedy, was first recommended by Dr. Mackenzie, of Glasgow.¶ It has been highly recommended by Bretonneau, Trousseau and many others, but of late years it has lost its repute. Dr. J. F. Sullivan, of San Francisco, treated over four hundred cases of diphtheria with a solution of nitrate of silver, in the proportion of a drachm of the salt to an ounce of distilled water. The applications were made with a sponge probang. Dr. J. Lewis Smith, of

* Philadelphia Medical and Surgical Reporter, January 27, 1877, p. 75.
† American Medical Times, December 8, 1860.
‡ Medical Times and Gazette, 1858, p. 552.
‖ Gazette des Hop., 1858, p. 359.
§ New York Medical Journal, January, 1874, p. 84.
¶ Edinburgh Medical and Surgical Journal, 1825, p. 294.

New York, recommends carbolic acid as a local application to be applied by a large camel's hair pencil:

℞. Acid carbolici, gtt. viij;
Liq. ferri subsulphat, ℥ij.—iij;
Glycerinæ, ℥j. M.

Dr. F. C. Hotz, of Chicago,** speaks very highly of the following as a topical remedy in diphtheria:

℞. Acid carbolic cryst.;
Alcohol, āā ℥j;
Aquæ, ℥v;
Tinct. iodin, ℥ss. M.

This makes a perfectly clear, transparent mixture, of a brown red color, which soon, however, passes into a pale yellow. The local application of powdered sulphur has been highly lauded, especially by Spanish authorities, for its destructive action upon low organisms. Dr. J. Ullerspergerꝉ speaks highly of sulphur in diphtheria. He prefers the unwashed flowers of sulphur, on account of the presence of some sulphuric acid. Sulphur has been recommended as a local application, but being quite insoluble, can have no curative effect, and must only act as an irritant, like marble dust. The solution of chloride of soda (U. S. P.) is a useful local application in malignant cases, especially where there is fetor from the breath. Another remedy which I have found useful to neutralize the odors from the mouth, is the following:

℞. Permanganate of potash, grs. x;
Aquæ distill., ℥j. M.

S. One teaspoonful to a tumbler of water, to be used as a mouth wash.

Dr. Souley‡‡ speaks of the great utility of phenicated camphor as a local application. With this preparation he has seen the pseudo-membrane lose its vitality, without any irritation of the surrounding parts. The solution is prepared by dissolving powdered camphor in crystalized carbolic acid, previously dissolved in alcohol (nine parts of the acid and one

** Chicago Medical Journal, July, 1871.
ꝉ Journal für Kinderkrankheiten, vol. 5 and 6, May and June, 1868.
‡‡ Gazette Hebdom, November 23, 1877.

of alcohol), and which may be employed either in its pure state, or mixed with equal parts of sweet almond oil. The atomizer has proved of great benefit in many cases that I have treated. With this, solutions of alum, borax, chlorate of potash, lactic acid, carbolic acid, sulphurous acid, bromine, glycerine, creosote, iodine and the like can be employed, where it would be impossible to use a brush or probang. In one of my cases, twelve years old, I used a solution containing five per cent. of tannin, each inhalation lasting from fifteen to twenty minutes. After several repetitions of this, large pieces of false membrane were ejected, and the breathing relieved. Dr. C. Edel, of New York,|||| has met with good success in a number of cases, by adding fifteen drops of the oil of turpentine to the boiler of Tiemann's steam atomizer, half filled with water. Dr. J. W. Curran relates in the *London Lancet* of losing a number of cases of diphtheria, which we do not wonder at when we read of his treatment, which consisted principally of calomel and blisters. Finally he began to use inhalations of iodine in hot vinegar and sage, and saved every case. Dr. G. H. Eyster§§ says: "The success I have met with in the use of iodine inhalations has been most striking. In a very considerable number of cases of well-marked diphtheria, speedy and marked improvement followed every one." Dr. Zwingenberg, of Brandenberg,¶¶ treated all his cases during a severe epidemic of diphtheria, with alcoholic gargles, without losing a case; and Dr. Hoffendahl, of Boston,* speaks very highly of this treatment in his own experience.

Dr. J. E. Reeves, of Wheeling, W. Va., has used the following with good success, with the atomizer, every hour or two when the patient is awake:

℞. Potass. chlorat, ℥ij;
Acid hydrochloric, puri ℥jss.;
Aquæ, ℥vij;
Tinct. ferri chloridi, ℥j. M.

|||| New York Medical Record, January 19, 1878, p. 50.
§§ American Practitioner, May, 1871.
¶¶ Allgem. Hom. Zeitung, vol. 77, No. 1.
* N. E. Medical Gazette, March, 1869.

Dr. J. Lewis Smith † is in the habit of using the following mixtures with the atomizer:

℞. Acid salicylic, ʒss.;
Glycerinæ, ʒij;
Aq. calcis, ʒviij. M.

℞. Acid carbolic, gtt. xxxii;
Glycerinæ, ʒij;
Aquæ calcis, ʒvj. M.

℞. Acid carbolic, gtt. xxxii;
Potass. chlorat, ʒiij;
Glycerinæ, ʒiij;
Aquæ, ʒv. M.

TREATMENT OF CROUP.

When croup appears we must change our treatment materially to oppose that dangerous complication. Under the measures of treatment heretofore relied on, this complication has proved fatal in the vast majority of cases. Emetics have been and are still employed in the treatment of this disease. The action of an emetic is to induce diaphoresis of the skin from the vascular relaxation which accompanies the act, and something of the same kind may be supposed to take place in the bronchial mucous membrane, thus facilitating the detachment of viscid and adherent secretions. For children under three years of age, ipecacuanha is preferable. Professor Meigs, of Philadelphia, recommends alum highly, a teaspoonful in an equal quantity of honey or molasses, and repeated in ten or fifteen minutes if the first dose is ineffectual. Antimony, turpeth mineral or any of the depressing emetics, are not advisable in this form of croup. Professor J. Lewis Smith recommends highly the following:

℞. Potass. chlorat, ʒij;
Ammon. muriat., ℈ij;
Syr. simplic, ʒj;
Aquæ, ʒij. M.

One teaspoonful every twenty minutes to a half hour; or, in cases not severe, every two hours. A warm, moist atmos-

† American Journal of Medical Sciences, October, 1877.

phere is of the greatest importance, and the atmosphere of the room should be charged with as much vapor from boiling water as possible. Professor Lewis A. Sayre, of New York, attributes more importance to this than to any other remedial measure. Professor Smith says that in one of the most severe cases he ever met, which terminated favorably, the room was so filled with steam that water hung in drops from the ceiling. The atmosphere which the child breathes should be constantly loaded with moisture, without, however, that degree of heat which would add materially to the discomfort of the patient or attendants. Lime or vinegar may be added to the water. One of the most severe cases of diphtheritic croup that I ever attended was saved by the thorough use of steam. There was stridulous, labored breathing, with marked depression over the clavicles at each inspiration. The aphonia was complete. There was capillary congestion, and it seemed every moment that the child, who was six years old, would breath her last. With the aid of intelligent attendants, the temperature was kept at 90°, and the room saturated with steam. Muriate of ammonia, combined with chlorate of potash, was given internally. At the beginning of the fourth day the membrane had disappeared from both tonsils, and the symptoms were very much better. At this point, with that regard which some persons seem to have for their physician, I was dismissed, a homœopathic physician was called in, and I suppose took all of the credit for curing the child. In another case, where the child, four years old, had been kept in a room saturated with steam for three days, and the symptoms were so much better that I considered the child almost out of danger, the parents, who were extraordinary specimens of perverse stupidity, at the suggestion of some neighbors, removed the steam from the room, dosed the child with goose oil, and in ten hours she was dead. The most experienced physicians regard the inhalation of steam to be more useful than all other measures combined.

TRACHEOTOMY.

If all remedies fail and suffocation seems inevitable, there is yet one measure which offers a slight hope of restoring life—opening the trachea, and inserting a tube through which the patient may breathe. The operation is generally unsuccessful, on account of the desperate condition of the patient before it is resorted to. When it is resorted to early, while there is yet a reasonable amount of strength, there is a great deal more to be hoped for from the operation. If it is delayed until the pulse has become feeble and frequent or gone at the wrist, the surface cold and blue, there will have been prolonged congestion of the arterial side of the lungs and the right side of the heart; which the greater degree of exhaustion will compromise the chances of success very much, and there will be more likelihood of a bronchitis or pneumonia being developed, which will pretty certainly prove fatal. The propriety of the operation appears to be generally conceded in France and Germany. Most New York surgeons seem to shun the operation, and regard it with ill favor. In 1,249 cases recorded by Dr. A. L. Voss,* only 294 recovered. Dr. Kroenlin† gives a statistical report of 567 cases of diphtheria which came under the care of Professor Von Langenbeck. Of these, 379 died, while 190 recovered. Tracheotomy was performed 504 times; of these, 357 died. Professor Jacobi, of New York,‡ reports 166 cases operated on by himself and Drs. Krackomizer and Voss. Of these, 127 died, and 30 recovered. No one will deny, in the light of statistics, that tracheotomy is in certain cases proper, and should be resorted to where death is threatened by suffocation from obstruction in the larynx. Dr. W. H. Quill‖ considers it incumbent on the surgeon to perform the operation, even though the chance of ultimate recovery be infinitessimal.

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*New York Journal of Medicine, January, 1860.

† Archiv. für Klin. Chirurgie, 1877, bd. XXI., September 2.

‡ American Journal of Obstetrics, May, 1868.

‖ Medical Press and Circular, January, 1878.

PREVENTION.

No amount of artificial disinfection can ever take the place of pure air, good water and proper drainage, which can not be gained without prompt and efficient removal of all filth, whether from slaughter-houses, etc., public buildings, crowded tenements, or private residences. The most wide-spread evil in many towns is dampness of soil, arising from incomplete drainage; that is, removal of water from the soil. In my own experience the greatest fatality occurred in those houses that were built upon filled land, where the subsoil was clay and the cellars were wet. A large part of the filth in the majority of towns contaminates the air and the soil, and often the water which is used for domestic purposes, by being thrown upon the surface of the ground, or collected in loose walled vaults and cesspools.

The evil sometimes appears in a different form when filth finds its way into small streams. The majority of householders of the present time grossly neglect one or the other of these matters, thereby incurring great risk of bringing disease and death into their families. When there is an epidemic of diphtheria the tendency to mouth catarrh, caries of teeth, pharyngeal and nasal catarrh, congenital and acquired enlargement of tonsils, exposure to cold air, inhalations of dust, cauterization, are just as many invitations to the diphtheritic poison. The patient suffering from diphtheria should be placed in a separate room, and no person except the physician, nurse, and in case of a child, the mother, allowed to enter the room or touch the bedding or clothing used there, until they have been thoroughly disinfected. All clothing, bedding, carpets, or other articles not absolutely necessary for the use of the patient, should be removed from the room before he enters it, and all articles used about the patient, as sheets, pillow-cases, blankets and clothes, must not be removed from the sick room until they have been disinfected. The ceilings and side walls of the sick room, after the removal of the patient, should be fumigated, cleaned and whitewashed, and the wood-work and floor thoroughly scrubbed with soap and hot water. In the case of all children in the family

beside the one attacked, the skin should be washed each day with lukewarm carbolic wash of the strength of Squibbs' two per cent. disinfectant solution of the mixed phenols. A gargle of chlorate of potash, three grains; tincture of the chloride of iron, three drops; water, three drachms; should be used frequently in the mouth and about the nostrils, and the same amount internally every three hours. After one or two days the potash and the iron can be detected in the secretions.

The best way to fumigate a room when not occupied by a patient, is to take in an earthen or wooden vessel four pounds of chloride of lime; moisten it with water, and add thereto a pint of muriatic acid. Chlorine gas is rapidly generated and permeates every article. Keep the room closed for an hour or two, and then thoroughly ventilate it. Water-closets and privies, drains and foul places in houses, stables or yards, should be disinfected daily with the following mixture, which is also useful to soak sheets, pillow-cases, blankets or clothes. Prepare in a tub, sulphate of zinc, eight ounces; carbolic acid, one ounce; water, three gallons.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—*Hepatic Abscess, with some remarks on Dr. Hammond's Paper.* By WALTER COLES, M. D., St. Louis, Mo.*

From time immemorial the liver has been invested with peculiar interest in the minds both of the laity and of practitioners of medicine, and has been in one way or another associ-

* It appears that Dr. W. A. Hammond, N. Y., had a case of melancholia which he attributed to an hepatic abscess caused by brain disturbance. He tapped the abscess and the case was cured. Here the removal of the effect destroyed the cause: one may humorously say here, "*causa sublata, tollitur effectus*," but "*effectus sublatus, tollitur causa.*" This is all said without a particle of feeling.

Dr. Cole's paper is inherently very interesting, and it is published only for this reason; not for controversial purposes, which all journals repudiate.—[ED.

ated with nearly all the ills that flesh is heir to. The rapid strides, however, which of late years have marked the study of its physiological and pathological relations, has led the medical profession to view this organ in a new, yet no less important light than that in which our forefathers were wont to regard it. Notwithstanding advances in the scientific world, many crude notions and superstitions of the olden time still cling to the people generally, and as a consequence we hear every day of the various "liver complaints" with which a large mass of humanity is afflicted. Indeed, so prone are persons to charge the liver with every vague and undefined illness, that a clever English writer has observed that "it is one of the most curious things in the human pathology, if not in human nature, that a certain considerable number of people seem rather pleased than otherwise when told that their liver is affected." And he might have added, that, for these reasons, there is scarcely an organ in the body upon which the empiric and the charlatan has thriven and fattened to such repletion as upon this same much abused viscus. This is a fact well known to medical men, and yet we see no means of remedying this wide spread delusion, other than by the cultivation of more exact knowledge upon the part of physicians, and, as a natural consequence, in time, the inculcation of sounder views amongst their patients.

Perhaps in no department of pathology and therapeutics has more satisfactory progress been made, in modern medicine, than in the matter of *hepatic abscess*, the general features of which have been so thoroughly discussed by the many able writers who have devoted their attention to the subject, that they will not be formally reproduced here; our object being to confine ourselves more particufarly to certain practical and important points suggested by the recent literature of the disease.

Fortunately, in this latitude, abscess is so rare that few individual practitioners have opportunities during a life time of witnessing a sufficient number of cases to gain a very ripe experience. Some idea of the infrequency of this affection may be gleaned from the fact that in response to recent letters

inquiring as to their experience with the aspirator, several metropolitan physicians of extensive private and hospital practice have replied: "I have met with no case of abscess of the liver since this instrument was introduced,"—some eight or ten years ago. Stokes, speaking for Great Britain, remarks that "abscess of the liver, so common in India, is of rare occurrence in these countries." A few isolated cases are to be met with in medical records, but no series of cases was published as occurring in Europe until the appearance of Louis' researches on the subject. (Cyclop. Prac. Med., Vol. iii, p. 160.) Watson says: "In this climate we do not often meet with hepatic abscesses." (Practice of Physic., p. 964.) Dr. S. H. Ward, whose opportunities for judging are not surpassed by any physician in London, declares idiopathic abscess "almost limited to practitioners in India, and to those in this country who are brought into contact with officers, seamen, and other individuals, who return invalided from tropical climates." (*London Lancet*—reprint, Nov. 1868, p. 658.) Niemeyer concludes that "it is rare in the temperate zones, but more frequent in the tropics, particularly in India, although the old accounts of its frequency there are overdrawn." (Practice of Medicine, Vol. i, p. 635.) Dr. Flint asserts that "hepatic abscess is extreemly rare in cold or temperate climates. It is an affection belonging *par excellence* to warm climates, although not very common in the latter." (Practice of Medicine, p. 467.) Such citations as these might be indefinitely extended, but are quite sufficient to indicate the universally accepted opinions on this subject. Indeed, we know of but one exception—that of Dr. Wm. A. Hammond, of New York, whose experience has led him to conclude "that hepatic abscesses are much more common with us than is generally supposd." (*St. Louis Clinical Record*, June, 1878, p. 56.)

The comparative immunity from abscess of the liver in this latitude is interesting, not only as a matter of pathological history, but assumes great importance in connection with the question of etiology. There remain certain physiological points which are not as yet sufficiently mastered to enable us

to interpret fully the mechanism of heat in the production of hepatitis and abscess. That it is an important factor is certain, but perhaps its participation lies more in its influence upon the general surroundings of the patient than by direct action upon his physical organism. It influences the air that he breathes, his food, his drinks, his habits, and in short all his relations with nature. That an elevated temperature alone, even where it is combined with many well-known exciting causes, is not sufficient to produce suppurative hepatitis in northern latitudes, is sufficiently illustrated in the lives of certain artisans and mechanics of our own country and Europe, whose avocations compel them to remain subjected to great heat, with but brief intervals of rest, for many successive years; yet there is no evidence that these classes are peculiarly liable to the disease. An admirable paper on "Abscess of the Liver," by Dr. J. C. Davis, of New York, (*N. Y. Medical Journal*, June, 1878,) contains many interesting observations bearing on this question. After giving a brief "geographical distribution" of abscess, he says: "It is much less frequent on the Western continent than on the Eastern. It is much less frequent in certain of the West India Islands than others of the same group, under the same climatical influences; as to heat, rainfall, direction of wind, geographical formation, etc." Dr. Davis' observation was in Zacatecas, Mexico, a city of 50,000 inhabitants, situated in an elevated, mountainous region, where the mean temperature is 60° Fahr. Here, in ten years, he met with thirty-six cases, and yet he tells us that in several of the Mexican States subjected to a much higher temperature, "abscess of the liver is among the rarest of rare diseases." These are interesting facts, and in many cases difficult of explanation, save by taking into consideration other external causes.

Stokes reminds us of the fact that abscess sometimes appears to be epidemic. The pyæmic and embolic variety is frequently so; indeed, if we accept the apparently well substantiated theory which Ribes and Budd founded on the researches of Gaspard, Cruveilhier and others, that hepatic abscess follows in a large proportion of cases from dysentery,

we have little difficulty in recognizing the epidemic feature. The fact, however, that even the most malignant epidemics of dysentery in milder climates are only exceptionally followed by abscess, whilst in tropical regions this is quite commonly the case, has led to much discussion as to the true relations between these two affections as to cause and effect. It can not be doubted that there is much truth on both sides of this question; either disease being capable of determining the other, with the essential difference, however, that in temperate regions there is the absence of that peculiar malignancy born of those general conditions recognized as the "tropical cachexia."

The causes of liver abscess, as at present generally conceded, may be briefly summed up as follows: 1, Traumatic; 2, Hemorrhagic infarction; 3, Inflammation of hydatid cysts; 4, Ulceration of gall ducts; 5, Entozoa; 6, Metastatic,—such as septicæmia, pyæmia, embolism, and including organic lesions of alimentary canal, and other parts; 7, Tuberculosis; 8, Malaria, and other deteriorating and poisonous agents, acting through the blood, such as heat, alcohol, etc.

We can not permit the present oportunity to pass without some additional remarks, suggested by Dr. Hammond's paper on "Obscure Abscess of the Liver, etc.," which appeared in the June numer of the *Clinical Record*, and to which reference has already been made. In this paper the writer sets out with the declaration, "that abscesses of the liver may exist without giving rise to any marked local or general symptoms is a point with which those who have investigated the subject have long been familiar." Now, the foregoing as a general proposition should most undoubtedly be accepted; since it is based on facts, well known to all who have studied the clinical history of this, sometimes, very obscure affection. And, if Dr. Hammond had stuck to his text, we should have had nothing to say; but that he has not done so, either in his preliminary assumptions, or subsequent deductions, we think can be easily shown. Indeed, the paper in question, when closely scanned, reminds one of a legal brief in which an evident effort has been made to establish a certain proposition,

regardless of countervailing facts,—facts which can not be suppressed without detriment alike to the imperishable principals of science and the best interests of humanity.

In order to establish his declaration that abscess is frequently unaccompanied by any "marked" general or local symptoms, he quotes freely from many authors; among the rest, Frerichs, whose exhaustive work on diseases of the liver is universally accepted as one of the most authoritative extant. Frerichs, he says, "asserts that the *fundamental lesion is either indicated by no symptoms whatever, or by insignificant derangements, which are easily overlooked.*" (The words in *italics* are taken from Frerichs, vol. ii., p. 121.) It is scarcely necessary to remark that the author thus quoted commits himself to no such doctrine as this. But in order to illustrate the unfairness of Dr. Hammond, when he wishes to make a point in his own favor, we give below what Frerichs *does* say, when it will be seen that the Doctor appropriates only the part of a sentence, thus destroying, not only all sense, but entirely changes the meaning of the author, whom he unceremoneously attempts to impress into his service. Here is the sentence complete (those words in *italics* which have been omitted.) "*In other cases the symptoms of morbid processes consecutive upon the hepatitis, or which precede and give rise to it, are the most prominent, whilst the essential* fundamental lesion is indicated either by no symptoms whatever, or by insignificant derangements, which are easily overlooked." To indicate further the extent to which the views of Frerichs have been mis represented, we proceed to give the remaining portion of the paragraph, of which the foregoing is the opening sentence—we beg that the reader will put the two fragments together. It is as follows: "In our own climate this is in a marked degree the clinical history of so-called pyæmic infection, in the course of which latent hepatic abscesses are wont to be developed. In warm countries it is mostly dysentery or intermittent fever, and, according to Haspel, particularly the tertian form, which masks inflammation of the liver. Sometimes morbid processes induced by the hepatitis, such as peritonitis, or still more frequently pleurisy, or right pneumonia, give

rise to such prominent symptoms that the real seat of the disease is overlooked and mistaken."

Again, Dr. Hammond states that Frerichs, Andral, Catteloup and others have not unfrequently met with cases "where local examination furnishes no data whatever for proving a diagnosis; when neither the size nor the form of the gland is altered, and where there is no increase of tenderness." Doubtless this is the experience of many who have seen much of this disease, but it by no means follows that in such cases there are "*no symptoms whatever.*" On the contrary, as Frerichs has explained in the sentence which the Doctor so unmercifully mutilates, there are frequently attendant symptoms of so prominent and violent a nature as to completely mask the suppurative process. This happens to be precisely true in Andral's case, to which allusion has been made. It is that of a young man, who, after a fatiguing ride on horseback, had an attack of fever, for which no local cause could be discovered. On the 4th day he had a rigor and severe headache; his tongue was white, he had no appetite and suffered from obstinate constipation; on the 12th day he became delirious, and on the 17th he died. During the entire progress of the disease there were no local symptoms; there was no vomiting, and no jaundice; the various internal organs were carefully examined without discovering any local disease. At the autopsy all the organs were found free from any lesion of importance, and even the liver appeared normal, until accidental puncture with the scalpel laid open an abscess as large as an orange, filled with pus, destitute of odor, and surrounded by softened red hepatic tissue. (*Clinique Medic T. II.* p. 303.) This case is interesting and instructive, but surely Dr. Hammond will not contend that it was marked by "*insignificant derangements,*" nor will he go so far as to assert that the symptoms were not directly connected with the rapid and deadly changes going on in the liver; for the *post mortem* too clearly reveals the facts, and leaves us only the sad regret that this young man's medical attendant was not possessed of the wonderful *tactus eruditus*, which the Doctor has developed in the detection of fluctuation. It is doubtless to this case

that Stokes alludes when he says, "in all the cases of abscess of the liver recorded by Andral, there is but a single instance where the disease occurred without complication with lesion of other organs." (Ibid vol. iii., p. 169.)

Dr. Hammond further says: "Rouis, who has written a most elaborate memoir on the hepatic abscess, gives it as the result of his observations, that of 143 cases, the symptoms prior to suppuration were either entirely absent, or were undefined in 62 cases, while in 30 cases they were undefined during the whole progress of disease, and in 19 cases were either masked or latent." Somewhere in the paper we are reviewing, Dr. Hammond remarks: "At present we move in the dark—or at least in a very obscure atmosphere." Certainly his surroundings must have been somewhat hazy when he wrote the foregoing! Wherein he commences by telling us that Rouis has written an elaborate memoir, etc., on hepatic abscess, and continues, all in one sentence, to announce that "the symptoms *prior to suppuration* were either entirely absent, or were undefined in 62 cases." What the symptoms were *during* suppuration or *after* suppuration—after there *actually was abscess*, the Doctor conveniently omits to tell, though this is the point we are really after.

The following is an anlaysis of the clinical history of Rouis' cases, taken from Frerichs (Ibid. p. 129): "Out of 143 cases, 80 commenced with symptoms of dysentery; 14, with those of gastric or gastro-enteric catarrh; 1, with those of gastralgia; 5 commenced under the form of irregular intermittent fever, and 5 were perfectly latent. In 21 cases, the symptoms of acute hepatitis, or of acute hepatitis complicated with a tendency to dysentery, were present from the first; while in 17 there were the symptoms of subacute or chronic hepatitis with dysentery." Such is the analysis of Rouis' cases, which may be taken as a fair example of the clinical history of hepatic abscess everywhere, and as it has presented itself to all observers, with the exception of Dr. Hammond, whom we have consulted. The contrast between the latter's experience and that of Rouis is indeed remarkable when we come to a matter of statistics; for while of Rouis' 143 cases,

only 5 were "perfectly latent," Hammond tells us he encountered this feature in no less than 100 per cent.

Still another statement of Dr. Hammond's needs correction, wherein a great man and a close clinical observer, now dead, is placed in a false attitude. He quotes Stokes to prove the latency of liver abscess, and refers to several cases cited by him, from the writings of Andral; in one of these cases the Doctor says: "The patient never had either sickness or pain, either in hypochondrium or right side of the chest." Who could read this quotation, under the authority of such a name as Stokes, without perceiving at a glance how nicely it dovetails with Dr. Hammond's cases? The history of these cases and their wonderfully successful treatment has been extensively circulated and read by thousands, yet how many of these numerous readers have thought or had the opportunity to inquire whether Stokes ever penned such a statement? Well, he never did, or any thing like it. The truth is, Stokes mentions this particular case as an illustration of the manner in which abscess of the liver may be complicated with other diseases, which by their *very gravity* completely mask the liver trouble; in this instance, "a schirrus state of the stomach" was revealed at the autopsy. (Ibid, p. 69.)

But although Dr. Hammond attempts to fortify his position with an imposing array of authorities, he can not find one of them who will assert that hepatic abscess can proceed from incubation to maturity and yet present, as he contends, "no symptoms whatever."

Obscure it often is, masked it sometimes is, latent it may be, but never without something more than "insignificant derangements" somewhere in the line of its history. Should the abscess be small and become encysted, it may remain latent for years without giving rise to serious trouble. This is the opinion of Frerichs, who mentions by way of illustration the case of Mr. Lawson, a colleague of Dr. Budd's, who "followed his profession for ten years after an attack of hepatitis, which left behind several abscesses." Here is a case where the patient enjoyed even "tolerable health," says Budd, yet it can not be said that it was characterized by "no

symptoms whatever;" on the contrary, these abscesses supervened on an attack of *hepatitis*, which is the usually recognized "*marked commencement.*" The abscesses in this instance, however, were very small, but had they been larger, the symptoms and constitutional effects would have been more pronounced, for, declares Budd, a large abscess "never exists without very serious impairment of health." (Diseases of the Liver, p. 460.) There need be no high degree of fever, neither is it continuous, rather intermittent in character, but always present at some stage of the suppuration. Frerichs makes this very judicious commentary on the uncertain symtomatology of abscess. He says, "We must not always expect to meet with the entire train of symptoms perfectly developed; this is rarely the case; they are usually observed either in whole or in part at certain stages of the disease only, or, indeed, all symptoms indicative of a local lesion may be entirely absent." (Ibid, p. 128.) After discussing the question of diagnosis at length and reminding us that abscess may be so masked as to be entirely overlooked, even by the most skillful surgeon, Stokes says, but such cases are comparatively rare and should not discourage the student or render him skeptical as to the powers of diagnosis.

Before proceeding to explore the liver, we hold that there should be a *reasonable suspicion* of abscess. Our conclusion must be founded on a close and careful scrutiny of the whole history of the case; bearing in mind that many cases, though masked, or latent at the moment of observation, may be connected with antecedent phenomena calculated to lend valuable assistance in forming a correct judgment. When all local symptoms are absent, the diagnosis must necessarily be very difficult. Fortunately, in what might be termed "walking cases," this is less apt to be the case than when there are severe complications, distracting the attention of the nerve centers to other organs. The fact that authors lay so little stress upon *fluctuation* is significant that they deem it a sign of little or no value, when the abscess is not sufficiently large, or so situated as to bulge out the right hypochondrium, or cause the gland to extend downwards below the margin of the ribs.

Even in that case, if the abscess be deep, it is generally absent. Any one who has attempted to detect fluctuation in the adult under such circumstances can appreciate the difficulty, and for obvious reasons. The writer recalls the case of a child, three years old, who suffered from hepatic abscess following a violent attack of dysentery. In this instance the local symptoms, such as pain and tenderness were well marked; the liver enlarged, yet even in this child, with its small yielding chest, there was no sign of fluctuation until the pus was pressing out the intercostal spaces; when a large abscess containing ten ounces of healthy pus was evacuated with a bistoury, resulting in complete recovery. This, by the way, is the only case of hepatic abscess occurring in so young a subject, within our personal knowledge; the patient was the child of a gentleman residing near Parkersburg, W. Va.

We should not forget that there is a trouble, sometimes met with closely simulating abscess of the liver, and which Stokes says may be easily mistaken for it. We allude to superficial fascial abscess of the walls of the abdomen over the right hypochondrium. Stokes speaks of it as a "singular disease," generally quite innocent, though he has seen a patient die of it. (Stokes and Bell, p. 530.) We well remember a puzzling case of this nature many years ago in Bellevue Hospital, New York, which was not without difficulty diagnosed by Dr. Alonzo Clark.

The improved instruments which we now possess render it much easier and safer to test our diagnosis in obscure abscesses than formerly. Though we repeat, that no one is justifiable in puncturing the liver unless he has a reasonable conviction that it is the seat of abscess. On this point it does seem to us, that the teachings of Dr. Hammond partake too much of the enthusiast, and are well calculated to bring an important and useful surgical device into disrepute. He actually goes so far as to annunciate the proposition, "That in all cases of hypochondria or melancholia, the region of the liver should be carefully explored, and even if no fluctuation be detected, or any other sign of abscess be discovered, aspiration being a harmless operation, should be performed!"

To array any formal argument against such a doctrine as this would be a manifest reflection upon the intelligence of our readers, who are familiar with the fact that whilst hypochondria, insomnia, etc., are common accompaniments of nearly all affections of the liver, yet that they are symptoms which by no means belong to this organ *par excellence*. If this rule of the Doctor's were universally adopted during these times, when there is so much mental depression from business and other causes, what a pecuniary harvest it would prove for the doctors, even at a moderate fee *per puncture!* Aspirators would soon be in greater demand than "blue glass," or "Holman's pads," and we might all do a lucrative business, "prospecting the liver," as Prof. Aitken derisively terms this "haphazard" practice. (Science and Practice of Med., Vol. II, page 834.)

As before remarked, Dr. Hammond has been at great pains to quote every thing he could find bearing favorably on the points which he wishes to inculcate, whilst equally studious in omitting all counter-balancing testimony. He makes much of, and even founds a new theory of hepatic abscess upon, the recent researches of Cyon and Aladoff, into the anatomical distribution of the vaso-motor nerves of the liver; yet he brings forward not one atom of proof that these discoveries account for a single case of abscess. The nerves in question, like the rivulet of the wilderness, ran thus, even before they were dreampt of by man. And yet, is it not strange that they have only recently, and all of a sudden, developed potency in the production of abscess? Why is it that prior to the discovery of Cyon and Aladoff, hypochondria and cerebral hyperæmia were scarcely ever known to be complicated with abscess of the liver. Facts are far more eloquent than mere theories; let us see what the former teach us. Prichard says, "Medical writers formerly attached great importance to the liver, in disorders affecting the mind; later researches have by no means confirmed this prejudice. Esquirol found two instances of diseased liver in 168 melancholics, while in the same number there were 65 morbid changes in the lungs." (Prichard on Insanity, p. 173.) The

same author remarks that in 60 autopsies of cases of dementia there were only 2 in which the liver showed evidences of disease. In 259 post mortems of insane persons displaying morbid changes of structure in various organs, other than the brain, Scipion Pinel found lesion of the liver in only 5. (Guislain, p. 138.)

But the question arises, under what circumstances shall we explore the liver for abscess? Dr. Davis, whose recent paper on this subject may be regarded as the most valuable and practical yet contributed to American literature, lays down the following rule as to the proper time for exploration. He says: "What are we to do in an acute case of hepatitis, when well marked symptoms of suppurative fever arise? I answer, unhesitatingly, ascertain if possible the seat of abscess, and unless well defined symptoms are present, which point to the lungs as the probable outlet for the pus—*puncture.*"

Dr. W. H. Ford, of this city, who has seen quite a number of cases of hepatic abscess, and has had a good deal of experience with the aspirator, makes the following remarks in reporting a fatal case of abscess in which he had employed that instrument, in the *St. Louis Clinical Record* for July, 1876. He says: "Though puncture of the liver by Dieulafoy's needles is not an absolutely innocent procedure, notwithstanding his assertions in this respect, which, perhaps, are a little too emphatic, nevertheless, like most other well-devised and properly guarded surgical measures, it is infinitely less dangerous than the condition it is intended to remove. When, therefore, symptoms point to the formation of abscess in the liver threatening to perforate the diaphragm, the pus ought to be withdrawn by the aspirator. The symptoms denoting the propriety of this, will be the usual ones indicative of hepatic abscess, etc."

Prof. Maclean, of Netley, an ardant advocate of tentative aspiration, declares that when he has a case of dysentery with hepatic symptoms so acute as to lead to the suspicion that pus has formed, he always punctures; believing that if there is abscess the sooner it is evacuated the better, and should

there be none the local abstraction of a little blood proves salutary. (*Lancet*, October, 1873.) Cameron, Condon, and others coincide in these views. Dr. Dieulafoy, whose name is indissolubly connected with the aspirator, and who is certainly as enthusiastic an advocate of his invention as any one can be, declares in favor of early exploration, and would resort to it "when palpation and percussion disclose an increase of volume in the liver; when this increase has been rapid and accompanied with pain in the lower border of the organ and in the right shoulder; when these local symptoms are connected with general phenomena such as sweats and fever, more or less intermittent." (Pneumatic Aspiration, p. 93.)

We might thus go on and cite other authorities, but these are amply sufficient to indicate the generally accepted views of the most advanced advocates of the aspirator, as a diagnostic instrument.

But having thus verified the existence of abscess, what is to be done? The indications are plain: The pus should be evacuated without removing the needle, provided it is of sufficient size not to clog, which will frequently be the case even with those of larger calibre—the cavity being cleansed with some suitable antiseptic fluid. The needle may then be withdrawn and the patient kept quiet (a point insisted on by Dieulafoy) with a hope that the cavity may contract and no further collection of matter take place. This has been known to occur in several instances, even when the abscess was large—(it occurred in all of Dr. Hammond's cases without even the precautionary washing out) though this is by no means the rule. The tendency to re-formation of pus in all abscess cavities is well known. In 15 chronic and metastatic abscesses, not of the liver, tabulated by Dieulafoy, there were 39 aspirations; 10 are reported cured and 5 improved. Only 3 were cured by one aspiration. (Ibid p. 355.) The same author recites in detail the treatment by aspiration of 7 cases of hydatid cysts of the liver. In 3 cases one aspiration effected a cure; one case required three punctures, the fluid remaining limpid to the last. In one other the fluid became

turbid, "but had not time to be completely changed into pus, as cure was affected after the second puncture." The sixth and seventh cases completely degenerated into abscess; the sixth case was cured in six punctures, whilst the seventh was aspirated 300 *times*, and still not cured—a drainage tube having to be introduced.* (Ibid pp. 52-87.) Such is the rarity of liver abscess in "European countries," that Dieulafoy was unable, between the years 1869 and 1873 (the date of the publication of his book), to find but *one* case in the hospitals of Paris, upon which to try his instrument. This case was cured, but required two aspirations.

The experience of Condon at Madras, in the treatment of abscess of the liver exclusively by aspiration, is anything but encouraging. He reports 12 cases (*London Lancet*, Aug. and Sept., 1877), though in reality, he only had 8, since cases 2, 4, 7, and 10, on being explored, turned out to be free of abscess, and finally convalesced—the patients returning to duty as soldiers. In two other cases where abscess existed, the aspirator failed to reach it; the pus made its way into the lungs and produced death. In only 6 cases, therefore, did the aspirator cut any figure as a curative instrument. In one the needle clogged so badly as to render aspiration useless. Of the six cases, two were cured; one after three, and the other after five punctures, whilst four died after an average of thirteen and one half aspirations.

Dr. Davis has kindly furnished us with the following tabulated statement of the treatment, result, etc., of 36 cases of abscess seen by him at Zacatecas.

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* In several of Dieulafoy's cases very dangerous symptoms followed puncture. Davis mentions one case within his knowledge where exploratory puncture caused death. Moissennet saw death ensue in eighteen hours after puncture with smallest sized trocar. The patient fainted immediately after the operation, rigors set in, followed by green vomiting and cold extremities, pains in the abdomen and death from peritonitis (*Archiv Gen. de Med. Fevr.*, 1859.) Robert, Demarquay, Dolbeau and Jobert have all observed symptoms of commencing peritonitis, which were however arrested.

NO OF CASES.		DEATHS.	RECOVERED.
6	Opened into bronchia	1	5
2	Opened by incision.....	0	2
1	Simple puncture with trocar.....	0	1
5	Aspirating trocar (largest size)...	4	1
18	Trocar and drainage tube	10	8
1	Natural opening—external	1	0
1	Opened into the colon...	1	0
2	Abscess remained intact.....	2	0
Total 36		19	17

From the foregoing it would appear that the true province of the aspirator is restricted. As a diagnostic instrument, it is indeed invaluable, and is sufficiently harmless to justify its use in all cases where there is a well grounded suspicion of abscess. As a means of cure, simple and repeated puncture may be tried on all occasions where there are no evident symptoms of external pointing. Should, however, the abscess refill, as is apt to be the case, and evince no sign of amendment, it is better to insert a drainage tube—keeping up proper cleansing and dressing. Maclean says, "When the cavity, after being once or twice evacuated in this way, fills again, I believe the patient's best chance of recovery will be to make a free opening, after Mr. Lister's method, which gives the advantages of a free drain without the admission of air unfiltered through an antiseptic medium." It is always desirable that the pus remain free from decomposition. According to Davis, "if it becomes fetid, it is of the worse omen." We can conceive of but three conditions under which the contents of an abscess could become fetid prior to evacuation, and not necessarily so then: *i. e.* gangrene; hydatid decomposition; proximity to the lung or colon. Dr. Davis says, "I have never met with a case where fetid pus was found at a primary puncture." (Autograph letter.) Neither can we understand how fetor could exist without decided local or systemic disturbance. In a clinical lecture at St. Bartholomew's Hospital, Dr. Andrew remarks that hectic is by no means a necessary accompaniment of suppuration, "if, however, pus, or even serous fluid, were confined in a cavity, and ceased to be of laudible quality, a constitutional effect would at once be

found to ensue." (*Lancet*, 1870, p. 605.) A remarkable feature in one of Dr. Hammond's cases was the abstraction of ten ounces of pus of a "highly offensive odor," yet the patient was free from all local symptoms, and had no pyrexia whatever.

We beg leave to advert yet a little further to Dr. Hammond's paper, which we have already shown to be full of errors, both of omission and of commission, well calculated to exert a harmful influence upon practical medicine, emanating as it does from a teacher, whose prominence entitles him to the attention and respect of the medical world. But the truth is, there is not a single original point in the Doctor's article which can be sustained either by clinical experience or the teachings of pathology. The salient propositions of Dr. Hammond are: First—That abscess of the liver is quite common even in this country. Second—It is frequently the result of hyperæmia of the brain, sufficiently so to demand exploration of the liver, irrespective of symptoms in all cases of hypochondria and melancholia. Third—That all cases should be treated by one particular method. Fourth—That this method is not only innocent in itself, but that its results are altogether satisfactory; so much so, indeed, as to rob hepatic abscess of all its well-known terrors. We say that these are natural and just inferences from the Doctor's paper in the review of which we have already had occasion to call attention to several misquotations and mystifying expressions, calculated, if not intended, to convey erroneous impressions. In this connection we beg leave to notice another *double entendre*, lest others may be misled by it, as we confess we were when we first read it. In speaking of his method of operating, Dr. Hammond makes this declaration: "That the operation of aspiration is free from danger. Dr. Davis never saw any ill consequences from it, and Dr. Jimenez, of Mexico, states that of the hundreds of times he has punctured the liver through the intercostal spaces for abscesses, he has never once seen the operation followed by peritonitis." Now let any one unacquainted with the facts read over the above and ask himself what it means? He

is bound to conclude that Dr. Hammond intends to convey the idea that Jimenez employed the *aspirator* "hundreds of times." The sentences are so framed and connected as to admit of no other construction, and such was *put upon it*, until Dr. Davis' paper subsequently appeared, fully explaining what is known in Mexico as the Jimenez method—of simple and repeated punctures through the intercostal spaces by the ordinary trocar. Whereas Jimenez, who died in 1875, at an advanced age, had about completed his professional career before he ever heard of the instrument. Again Dr. Hammond misleads his readers when he conveys the impression that *simple puncture* is the accepted method of the present school of Mexican surgeons. For although Jimenez may not have met with *peritonitis* as the result of his numerous operations, he nevertheless encountered discouragements in the shape of *mortality*, which led him finally to abandon his method for that of Vertiz, wherein *drainage* is the essential superaddition. Dr. Davis tells us: "Vertiz's modification was the introduction of the drainage tube. Jimenez at once acknowledged its efficiency and used it, lessening, he claimed, the death rate fifty per cent. over the simple and repeated puncture as formerly practiced by him." (Autograph letter.)

There are other points in Dr. Hammond's paper which we should like to notice, but must conclude. We can not do so, however, without calling attention to the most extraordinary of all the remarkable features of the Doctor's experience in hepatic abscess. He seems dissatisfied with the hitherto accepted etiology when applied to his own cases; he therefore broaches a theory of his own, and suggests that these abscesses were due to the *brain disturbance* under which his patients had all previously labored. In other words, he regards the abscess as an *effct*—the brain disturbance—the *cause*. But, *mirabile dictu;* he removes the *effect*, and forthwith the *cause* vanishes! This is indeed a specimen of "back action" therapeutics which quite staggers our confidence in the established principles of medical art. We have pondered over this wonderful denouement until our mind, like Noah's weary dove, has found but one solution, and that is sug-

gested in the classic lectures of Henry Mandsley, "On the relations between body and mind." "Can it be doubted," says he, "that the strong belief that a bodily disorder will be cured by some appliance, itself innocent of good or harm, may so effect beneficially the nutrition of the part as actually to effect a cure? * * * * * * * Perhaps we do not as physicians consider sufficiently the influence of mental states in the production of disease, and their importance as symptoms, or take all the advantage which one might take of them in our efforts to cure it. Quackery seems to have here got hold of a truth which legitimate medicine fails to appreciate and use adequately. Assuredly the most successful physician is he who, inspiring the greatest confidence in his remedies, strengthens and exalts the imagination of his patient; if he orders a few drops of peppermint-water with the confident air of curing the disease, will he not really do more for the patient sometimes than one who treats him in the most approved scientific way, but without inspiring a conviction of recovery?"

3004 Olive Street.

ART. II.—*On the Extraction of Foreign Bodies from the Ear.*

By J. Marion Sims, M. D., &c.*

I am induced to make a few remarks on the removal of foreign bodies from the ear, in consequence of a discussion on this subject a few months ago in the pages of the *British Medical Journal.*

In the summer of 1843, Dr. B. R. Jones of Montgomery, Alabama, asked me to see with him a little negro, five or six years old, who had some foreign body in the ear. The doctor had already made fruitless efforts to remove it with a bent probe and forceps. I repeated the operation with the same instruments, and with the same unprofitable result. The ear bled a little, and became so tender that we were obliged to desist, and I went home to get other instruments. I returned

* Read in the Section of Surgery, at the Annual Meeting of the British Medical Association, in Bath, August, 1878.

to Dr. Jones the next day, with a small syringe and a delicate pair of forceps from my eye-case. We found the child's ear very tender to the touch, and the canal was tumefied and filled with coagulated blood. On the previous day, the foreign body was visible; but now it was obscured by the blood. I at first used the syringe for the sole purpose of washing out the blood, expecting then to remove the foreign body with the forceps. The syringe easily dislodged the blood near the outlet of the canal; but it failed to remove that in immediate contact with the foreign body. For the purpose of dislodging the blood, I caught hold of the lower lobe of the ear and pulled it outwards, so as to straighten the canal, and then injected water forcibly into the ear. Greatly to my surprise, the first jet of water ejected the foreign body from the ear, and it fell on the ground at a distance of fifteen or twenty inches from the patient. I had no thought whatever of removing the foreign body with the syringe. I expected only to clear away the coagula, so as to see it, and then remove it with the forceps. The foreign body was a bit of cut glass that had formed the ornament of a cheap finger-ring.

About a year after this, a negro man came to me, saying he had been deaf in one ear ever since childhood, and that with an ear-pick he had just discovered something hard in it. On examination, I found the ear completely blocked up with some dark-colored substance that, to the probe, seemed to be of bony hardness. It was soon removed by syringing, and proved to be a cherry-stone, which the man now remembered to have pushed into his ear twenty years before, when he was a small boy.

This was the strongest test possible of the efficiency of this means of removing foreign bodies from the ear. For, here was a perfectly spherical body, that completely blocked up the whole tract of the canal; and yet the small jet of water, thrown forcibly in, passed by and dislodged it, so that it was removed with ease. Ever since that, I have never failed to remove with facility any foreign body found in the ear, whether wax, insects, seeds, pebbles, or bits of wood.

The first article* I ever wrote for a medical journal was on this subject, and, as appropriate now, I quote from it the following:

"Whoever follows the loose direction of 'syringing the ear forcibly,' will often be disappointed. A sufficient explanation of this may be found in the anatomical peculiarities of the organ. The course of the meatus is curved, running at first forwards and upwards; then downwards and backwards; its concavity looking obliquely downwards and forwards. It is about an inch and a quarter or more in length; about a quarter of an inch in its tranverse diameter, a little more in the perpendicular direction, its section being oval. Its dimensions vary, being a little contracted at the orifice, still more so in the center, which is the narrowest part, and again at the tympanum. The anterior semilunar edge of the concha, leading into the meatus, projects considerably below a line forming a tangent with the convexity of the lower wall of the canal. With the obliquity of this canal and its irregular dimensions, it will be found difficult, if not quite impossible, to throw a stream of water with any degree of force against the tympanum, even when the organ is unobstructed; for, if the nozzle of the syringe be directed parallel with the tragus, the force of the injection will be spent against the anterior inferior wall, or convexity of the floor of the canal; if turned more towards the semilunar ridge of the meatus, its power will be lost on the posterior superior wall, or convexity of this tube. But, let us change the direction of the canal by laying hold of the lower portion of the antihelix, pressing the dorsum of the concha forwards while we put the whole organ forcibly on the stretch, pulling it outwards, upwards, and backwards, thus making the meatus a straight channel of diameter, and then it will be found comparatively easy to throw a uniform stream of water to its very bottom. If the foreign body be small, the water will dislodge it as it rebounds from the tympanum; if it be large, plugging up the passage per-

*On the Extraction of Foreign Bodies from the Meatus Auditorius Externus. By J. Marion Sims, M. D. (American Journal of Medical Sciences, April, 1845, p. 336.)

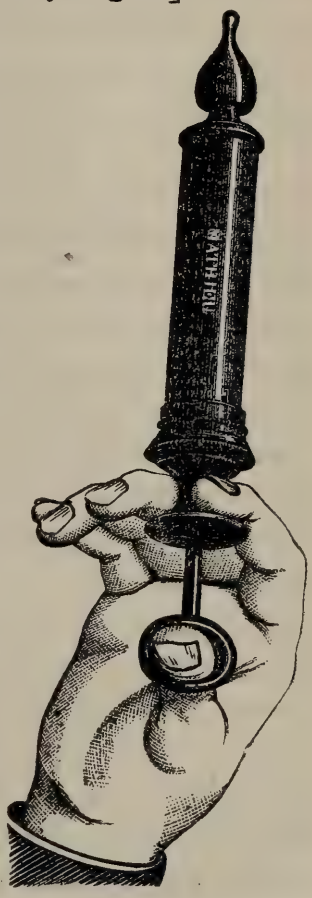
fectly, two or three injections properly directed (the ear held as described) will be certain to change its relative position sufficiently to allow the next to pass by, impinge on the membrane tympani, and wash it out in its retrograde course, or so far dislodge it as to bring it within reach of the forceps. The syringe that I use holds about two drachms of water. The nozzle is of small diameter, and the piston is perfectly air-tight. Water, thrown from it suddenly and forcibly, does not pass in a long, slow, continuous stream, but seems to strike, as it were, all at once and with great power. A syringe of small dimensions is preferable to a large one; because, with a small one having a small tube, the stream may often pass undivided by the foreign substance, so that its reflex action is almost as strong as its direct force. On the contrary, in a large syringe with a large tube, throwing a larger volume of water, a small portion only of the stream may pass behind the foreign body, while a larger portion strikes against it in a direct line with greater momentum, thus counteracting the retrograde force."

The principles here laid down are as true to-day as they were a third of a century ago, when they were first penned. So universally successful have my efforts been in removing foreign bodies from the ear, that I was surprised to find that the same unfailing success did not attend the efforts of all other surgeons. And so I felt anxious to ascertain the reason of this. To this end, I went to three of the most renowned instrument-makers in London and asked to see the best ear-syringes they had; and they showed me large, clumsy metal syringes, with large nozzles, throwing a stream of water large enough for a rectum syringe. I then went to some of the instrument-makers in Paris, and I found just the same sort of ear-syringes as I found in London. It was then plain to my mind that the fault was not in the principle, but in the clumsy and unsuitable instruments used.

The ear-syringe that we use in my country is made of hard India-rubber, holds only about four drachms, is light, and worked with one hand, while the other is used to straighten the canal by pulling the ear outwards, as above described.

But, as said before, the syringes that I find here are of metal, large and unwieldy, with large calibre, throwing a large stream of water, and worked with difficulty.

[Here the writer showed several ear-syringes, and contrasted them with the small, hard India-rubber syringes.]



The cut represents the American India-rubber ear-syringe, and the method of using it with one hand. It is two and a half inches long, the same in circumference, and holds about half an ounce. The orifice of the nozzle is one *millimetre* in diameter. A large ear-syringe, one holding an ounce, is made by the American Rubber Companies; but I prefer the small one, as it throws a smaller stream of water.

The easy removal of foreign bodies from the ear depends upon two things that are indispensable.

1. A light, small nozzle, throwing a small jet of water suddenly and forcibly, must be used.

2. The auditory canal must be made straight, by traction outward of the lower lobe of the ear, at the moment of injecting water into it.

With these simple directions, failure is impossible.

Female Superintendants to Lunatic Asylums.—Dr. Hiram Corson, Chairman of Committee, makes a careful report to the last meeting of the Pennsylvania Medical Society, closing with a resolution for a committee to memorialize the Legislature of the State for laws "to authorize the employment by managers of hospitals under control of the State of women medical superintendants for the female departments of said hospitals, and for hospitals to be erected for the accommodation of females."

ABSTRACT DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."

CONDUCTED BY EDWARD MILLER, M. D., LOUISVILLE, KY.

ON THE DIAGNOSIS OF HYPERTROPHY OF THE BRAIN. By FLETCHER BEACH, M. B., M. R. C. T.—In Mr. Beach's papers on the diagnosis and treatment of idiocy, he describes a case due to hypertrophy of the brain. A boy aged nine had his head enlarged, measuring twenty-two inches in circumference, and somewhat square in shape. He was weak in the legs, spoke slowly and was epileptic. He was unable to wash and dress himself. He was often dull and unable to speak, and suffered a good deal from headache. In speaking, his words came very slowly, not so much probably from defect in the center for articulation, as from defect in the higher centers. This disease is likely to be confounded with hydrocephalus and the distinctive diagnosis is of importance. In hypertrophy the head is square in shape, in hydrocephalus more rounded. In hydrocephalus there is often an elasticity over the late closed fontenelle, in hypertrophy none. In hydrocephalus the distance between the eyes is increased from the fluid inserting itself between and distending the suture formed by the frontal, ungual, and ethmoid bones; in hypertrophy this is not the case. In hydrocephalus we have to do with excessive fluid, in hypertrophy with excessive amount of brain, especially of the white matter. When the case is complicated with frequent epileptic attacks, little can be done, but where the fits are absent, much progress towards recovery is occasionally made.—*The Lancet.*

THE ALBUMINURIA OF ADOLESCENTS. By CLEMENT DUKES, M. D., M. R. C. P.—In 1877, Dr. Barnes said, in pregnancy the vascular system undergoes a remarkable development of growth and tension, and the nervous system a marked alteration; there is hyperæmia every where, and an increased

strain upon the glandular system, more manifest in the kidney, and hence albuminuria. A similar condition, though less marked, arises at puberty. Sometimes a change of temperature, an error in diet, excessive exertion, or mental emotion at that period, is sufficient to produce albuminuria. It may be persistant, or it may appear and disappear, or it may be absent at one time of the day, present at another. In 1873, Sir Wm. Gull said, he was aware of the fact that boys at the age of puberty frequently had albuminuria, but he was ignorant of the cause. At the same time, Dr. George Johnson believed he could trace it in most instances to scarlatina, diphtheria, erysipelas, or cold. In the large number of boys Dr. Dukes has under his care at the Rugby School, this albuminuria has occurred so many times, that now a furred tongue and headache, with a firm pulse, not relieved in a few hours by ordinary remedies, makes him seek for albumen. Bencke says, "that the development of the heart at puberty is to be regarded as a very important phase in its development, in regard both to the physiological and the pathological occurrences at this period of life." He says, also, "that the large arterial vessels attain their relatively narrowest condition at the time of puberty; hence, with the increased development of the heart, with relatively narrow arteries, we must get increased arterial tension." This hypertrophy of the heart, and this increased arterial tension at puberty, causes hyperæmia of organs, as we often see. At puberty, in most cases, we do not get albumen, unless we have some trivial exciting cause, as an error in diet; then the kidneys can not bear the extra strain. Put the patient to bed, and let the skin help the kidneys, and as a rule the albumen disappears; but if the patient be up, the arterial tension is increased by food (which causes a hyperæmia of all glands), and the blood-serum transuding, we find albuminuria. If milk only is taken, the hyperæmia is so little increased, and the urinary solids so little augmented, that albuminuria is escaped. This albuminuria of puberty is often so persistent, and even when it disappears, recurs again and again so often, that Dr. Dukes fears many of the cases pass into chronic Bright's disease, as long-continued

or often-repeated hyperæmia is the cause of all kidney diseases.—*Brit. Med. Jour.*

Case of Ununited Fracture of the Radius and Ulna. By Allan Duke, M. D., M. R. C. S.—Dr. Duke reports in the *London Lancet* the case of a man who suffered a fracture of the above-mentioned bones, from the kick of a horse. He was treated by the practitioner who first saw him, with splints and a bandage. The treatment was kept up until the man became so very weary that he declined all further treatment, and the arm remained uncured, scarcely any union having taken place. Eighteen months after the reception of the injury, when Dr. Duke saw him, there was great enlargement of the upper end of the radius, but no ossific union, and from the arm having been retained so long in the prone position, the end of the lower portion of the radius was thrown forward, overlapping the upper to the extent of about an inch and a half. Dr. Duke laid bare the seat of fracture, removed the ends of the radius, brought them into line, and retained them in position by inserting two screws (held together by a twist of silver wire) of sufficient length to protrude through the skin, that they with the wire might be readily removed, when they could with safety be dispensed with. They were kept in about eleven weeks, the limb being supported by an inside splint and bandage, at the end of which time as perfect union had taken place, they with the wire were removed. The case terminated favorably, although the patient had an attack of small-pox and erysipelas during the treatment. Although slight union of the lower part of the ulna to the upper part of the radius had taken place during the previous treatment, yet when the fragments of the radius were brought together, those of the ulna quickly righted themselves, so that the arm was restored to almost it formers shape and usefulness.

Stricture of the Urethra. By S. Messenger Bradley, F. R. C. S.—Mr. Bradley first describes two typical cases of stricture and the treatment he adopted for them. First—A

man forty-five years of age had stricture with retention of urine, the result of gonorrhœa twenty years before. In this case Mr. Bradley after failure in passing a catheter, tapped the bladder through the rectum; and after the urethra had recovered from the congestion, passed a filiform bougie, and afterwards used a Holt's divulsor. Second—A boy of nine who ruptured his urethra from a fall across a railing. In this case Mr. Bradley made an incision into the bladder through the middle of the perinæum, after the plan of Mr. Cock, and then introduced a silver catheter next day into the bladder through the urethra. Both cases recovered perfectly, and the reasons for the different proceedures were perfectly obvious. In the first the natural passage existed as a pervious tube, for non-traumatic organic stricture never obliterates the passage, and therefore if time is gained by tapping, per rectum, some day or other, attempts at catheterism will be successful, and when a filiform bougie can once be introduced, it is then perfectly easy to dilate the tube to any desired extent. The second case not different. The natural passage was partially or entirely interrupted, and no such proceeding as tapping suprapubically or rectally, would by gaining time enable the urethra to be restored. It was therefore necessary to perform an operation, such as the perineal section of Cock, to restore the urethra. If a catheter can be introduced, neither proceedure is necessary, but when that is impossible, it is better in all impermeable non-traumatic organic strictures, except when there are numerous urinary fistulæ, to tap per rectum, and trust to time and patience, with rest in bed, in order to pass by and by an instrument along the contracted tube; and in all cases where the urethra is ruptured, perform Cock's operation, and restore the passage in that way; and, further, this plan of perineal section is the best to adopt in cases of impermeable non-traumatic or traumatic strictures, when the perineum is riddled with fistulæ. When the passage is restored sufficiently to pass a No. 4 English cathether, there are three plans of treatment available—gradual dilatation, immediate dilatation by divulsion, and internal urethrotomy. Gradual dilation is perfectly safe, is not necessarily tedious,

and although occasionally followed by relapses and recontractions, it is probably less liable than the others to this serious drawback. Gradual dilatation is certainly calculated to promote the absorption of exuded lymph, and even organized fibrin, and is best practised by keeping the patient in bed with a catheter constantly in his bladder, only taking one out to put in another and larger one in its place. In this way a tight stricture may be generally dilitated to admit a No. 12 or 14 English catheter in a fortnight. Immediate dilatation, when the kidneys are healthy, is quite a safe proceedure. It is not a very painful one, and the patient is not confined to bed nore than a day or two, and it is of course speedy. Of internal urethrotomy, Mr. Bradley has no personal knowledge, and notwithstanding the ability and experience of the surgeons who recommend it, he never expects to resort to it. Mr. Bradley looks upon the operation with extreme suspicion and disfavor, for it is perilous at the time of operation, as he has known death to follow from hæmorrhage in a few hours; it is pregnant with danger for a considerable time after the immediate risk is over, as he has known death from septicæmia to follow ten days after the operation, and finally it is prone to relapses, as he has known a case twice operated on by internal urethrotomy which yet resisted the passage of any instrument a few months after the second operation. In cases of tight or impermeable stricture, where the perineum is riddled with fistulæ, the remedy is not internal, but external urethrotomy, and Mr. Bradley anticipates the day when this modern improvement shall be relegated to the limits of discarded surgical operations.—*The Lancet.*

Breech Presentations. By T. Gaillard Thomas.—Dr. Thomas says, as soon as it has been discovered that the breech presents, every preparation for the delivery should be made. It is best to take things quietly, and the early stages of a breech presentation should never be hurried, as the breech materially aids in dilating the parts. The instant the perineum is distended, the tactics should be changed. The patient should then be placed on her back across the bed, her feet

resting on two chairs, one limb being given into the care of the nurse, and the other into that of a competent physician previously summoned, who should always keep one of his hands free so that he may assist as required. The principle of the delivery is this, the force that expels the child, should come from above and not from below. Therefore, when the patient has been placed as above, give a large dose of ergot hypodermically, so as to produce an instantaneous powerful effect upon the uterus. When the cord comes within reach, get hold of it, and ask the assisting physician to press down upon the head with all his force. The patient, if a strong and healthy woman, should not be anæsthetized, and should be requested to bear down as hard as she can. When all these forces act together, the result is a speedy delivery. In a second or two, two fingers can be got in the child's mouth, and traction be thus made by means of the inferior maxilla.—*Med. and Surg. Reporter.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—*An Unsuccessful Case of Normal Ovariotomy by Battey's Method.* By DAVID PRINCE, M. D., of Jacksonville, Illinois.

Louisa Daub, aged eighteen, menstruated between fourteen and fifteen. She had a fall from a fence ten years ago, to which no permanent result could be traced.

She was attacked in January, 1877, with third-day chills, which were not followed by febrile exacerbations. They gradually increased in frequency, until they occurred every third hour.

Hystero-epileptic manifestations became engrafted upon the simple rigor, and Dr. John W. Craig, of Arcadia, under whose intelligent observation the case developed, treated her for supposed uterine disease, without any apparent benefit.

The patient was most obedient to directions, taking offensive medicines and submitting to manual and instrumental treatment without a murmur.

The periods of unconsciousness could always be interrupted by the hot iron brought near the skin of the spine with the intermedium of wet paper, so that the resulting steam produced an impression. The same effect could also be produced by the faradic current from a metallic point, making a very sharp impression. The remedy was temporary, however, the patient lapsing with stupor as soon as the impression ceased. A considerable relief was obtained by pressure in one or other of the iliac regions, whether the form of the affection for the time was stupor or spasm, either of the rigid or the convulsive character.

She came under my personal observation June 11, 1878, and, for some weeks, there was no violent manifestation. She took at night, potassic bromide, and in the day time, quinia, phosphorus, and cod-liver oil.

August 20.—Pain in the head and back was followed by a bad night, with numerous convulsions, which were controlled by chloroform inhalations.

August 21.—She remained semi-conscious without convulsions, and this state was followed by nausea.

August 22.—A series of convulsions partially controlled by chloral hydrate.

August 23.—Better. Abdomen tympanitic, and the following dose was given:

		Grm.		
Ol. Ricini,	℥ss. =	16		
Ol. Terebinth,	℥jss. =	6		
Potassic Bromide,	ʒij. =	2	60	
Fl. Ext. Senna,	℥ij. =	8		M*

August 25.—Etherized and a seton introduced in the back of the neck.

A period of relief followed, in which the patient took a warm bath thrice a week; the constant galvanic current down the spine once a day; potassic bromide at night, a tonic during the day, and a catheter twice a week.

*The equivalent metric weights and measurements are of such approximations as it is convenient to remember. For small amounts, divide all on the decimal side by six, and multiply by 100 for grains or minims, and all on the unit side by four for drachms.

October 7.—Convulsions occurred worse than before, and she was kept quiet by morphine and chloral hydrate during two days and nights.

October 9.—The third day of the attack; she was in a state of mental confusion.

October 14.—She appeared greatly improved.

October 21.—There were symptoms of an impending attack, and she took in the morning:

		Grm.
Elixir of Pyrophosphate of iron,	℥i. =	4
Elixir Valerianate of Ammonia,	℥i. =	4
Spts. Frumenti,	℥i. =	32

The symptoms passed off without a convulsive shudder.

She was placed upon the use of cod-liver oil, which had for some time been discontinued.

October 23.—She was dressed and walked about the room in a cheerful mood.

On the approach of a paroxysm, the symptoms were apparently controlled by 128 grm. of whisky (℥iv.). The paroxysm returned at night, when the same quantity of whisky was given.

The state of rigidity supervened, and a hypodermic injection was given of

		Grm.
S. Morph.,	gr. j. =	06
S. Atropia,	gr. 1-24. =	0025

The spasm ceased in ten minutes; and several hours of sleep followed without unpleasant consequences.

November 1.—A tonic spasm was treated by the injection of

		Grm.
S. Morph.,	gr. 1¼. =	075
S. Atropia,	gr. 1-12. =	005

The spasm relaxed in ten minutes, and the patient slept during the night. The urine amounted in twenty-four hours to ℥v=160 grm.

November 2.—The urine passed in eleven hours amounted to ℥ij=64 grm. Nothing abnormal in its composition. There was pain in the hypogastric region with nausea.

Sometimes, as already mentioned, the rigidity or the convulsions, whichever might be present at the time, was partially controlled by pressure of the hand in the iliac region. When first tried the expedient succeeded best when practiced on the left side, but afterward the right side seemed the favorite region for pressure. This is one of the points of distinction mentioned by Charcot between hystero-epilepsy and epilepsy in a hysterical person.*

The patient appeared to be approaching the state of idiocy, and Battey's operation was decided upon as the *dernier resort*

Before detailing the operation as performed by me, a brief statement of the operation as performed by Dr. Battey himself will add to the clearness of conception. This account is taken from an article in the *Atlanta Medical Journal*, reprinted in the RICHMOND AND LOUISVILLE MEDICAL JOURNAL for January, 1876.

The patient is placed in position on the left side, and the perineum held back by a Sims' speculum. The incision is made in the median line by scissors just behind the mouth of the uterus, and the peritoneum is picked up by forceps and cut through by scissors.

The fingers are employed to hook down the ovary of the right side when a ligature is applied over it, and afterward an ecraseur, which slowly divides the ovarian attachment to the broad ligament, which comes within the grasp of the chain.

The ovary of the left side is then searched for. If any difficulty is experienced in bringing out the ovary, Dr. Battey directs to turn the patient upon her back, in the lithotomy position.

About fifteen minutes are devoted to the separation of each ovary by the ecraseur.

The morning of November 8, 1877, had been set for the operation.

In the daily record of the case, that of the 5th was: "Seems well," and of the 6th, "Much improved." On the

* Charcot on Diseases of the Nerves, Sydenham Society's Edition.

7th a protracted spasm occurred; at 11 (midnight) relieved by a hypodermic injection of

		Grm.
S. Morph.,	gr. 1⅓. =	08
S. Atropia,	gr. 1-12. =	005

And by the rectum was given an injection of

Spts. Frumenti ℥iv. =124 grm.

Two circumscribed swellings, elastic, painful and hot, could be observed on the scalp and upon the right nates.

A profound impression had been received by the nervous system without obvious cause, and the operation ought to have been postponed. It, however, went on according to appointment, and was completed in about one hour. The proceeding differed from that of Battey's, chiefly in the galvano-cautery, instead of the ecraseur.

The patient being in Sims' position, an incision was made with scissors in the median line, behind the mouth of the uterus. A fold of peritoneum was picked up by forceps and incised by scissors under sight, when a portion of the omentum protruded.

Two fingers of the right hand were introduced, by which the ovary of the right side was seized and drawn out. It was held by forceps, while the platinum wire was being applied. Owing to the gliding of the ovary, it was severed near its middle, after which the remaining part was seized and its attachment, together with the fallopian tube, and the protruding portion of the omentum, severed.

In order to reach the left ovary, the patient was turned on her back, when the fingers easily grasped it, after which both it and the fallopian tube was severed in the same way. The fallopian tube required to be held longer in the grasp of the heated wire than the ovarian attachment and the omentum.

The wire was not drawn with much force in order that the separation might not be made so rapidly as to permit bleeding. No abnormal appearance was observed in the shape, color or constitution of the ovary of either side, or in the portion of the fallopian tube removed.

During the manipulation the fingers were placed upon the fundus of the uterus, and it might have been retroverted and drawn out through incision.

The patient recovered from the sleep of ether in the usual time. A record was carefully kept of the succeeding symptoms and treatment.

Morphia was given hypodermically in sufficient quantity and frequency to keep the spasmodic manifestations under control.

Noon, or one hour after the completion of the operation:

				Grm.
12:00 m.	S. Morph	gr. ⅓ =		02
3:00 p.m.	S. Morph	gr. ⅓ =		02
6:00 p.m.	S. Morph	gr. ⅓ =		02
11:00 p.m.	S. Morph	gr. ⅓ =		02
Nov. 9—				
3:30 a.m.	S. Morph	gr. ½ =		03
	Pulse, 140; temperature, 101½°; vomiting.			
6:30 a.m.	S. Morph	gr. ½ =		03
11:00 a.m.	S. Morph., (pulse 140) . . .	gr. ⅓ =		02
1:30 p.m.	S. Morph., (pulse 140) . . .	gr. ⅓ =		02
4:30 p.m.	S. Morph	gr. ⅔ =		04
6:00 p.m.	S. Morph. spinach green vomit	gr. ⅓ =		02
8:40 p.m.	S. Morph	gr. ⅓ =		02
Nov. 10—				
1:00 a.m.	S. Morph	gr. I =		06
3:30 a.m.	S. Morph	gr. I =		06
5:00 a.m.	S. Morph pulse rapid and feeble	gr. I =		06
8:00 a.m.	S. Morph	gr. I =		06
9:40 a.m.	S. Morph	gr. I =		06
10:20 a.m.	S. Morph	gr. I =		06
11:30 a.m.	S. Morph	gr. I =		06
1:30 p.m.	Spts. Fru. per rectum	℥iv. =	125	00
1:40 p.m.	S. Morph., resp. slow	gr. I =		06
5:45 p.m.	S. Morph	gr. I =		06
8:00 p.m.	Spts. Fru. per rectum	℥iv. =	125	00
Nov. 11—				
12:00 a.m.	S. Morph	gr. I =		06
1:10 a.m.	Pulse 170, restless.			
" "	Spts. Fru. per rectum	℥iv. =	125	00
" "	Chloral hydrat	℥j. =	4	00

Became quiet; the stupor being increased, the respiration becoming heavy with intervals.

9:00 a. m., pulse 160; temp. in axilla, 106° F.; in the rectum, 180° F.; breathing stertorous; eyes divergent; unconscious.

12:30 p. m., pulse 150; temp. in axilla, 103° F.; in the rectum, 107° F. She became conscious, the eyes presenting a natural appearance. The respiration improved, and she drank of wine ℥ij = 94 grm.

No more morphia was required, and she quietly died at 6 a. m., the 12th—or three days and twenty hours from the time of the operation.

Only the abdomen and pelvis were examined. There existed about an ounce (32 grams) of blood coagulum (without odor) in the pelvis. There were no indications of pus or false membrane and no coloration as would occur from inflammation. The incision in the vagina had healed by first intention.

The death was, therefore, neither by inflammation nor by poisoning, but probably by the exhaustion of a hystero-epileptic acmé.

The case resembles those quoted by Charcon, from Wunderlich, in his work on "Diseases of the Nerves," page 309 and 314, New Sydenham Society's Edition.

We shall never know what would have been the result in the case of this patient if the operation had been done in an interval, between the hystero-epileptic paroxysm.

ART. II.—*A Remarkable Case of Hæmaturia.* By DR. THOS. SOLLIS, Bradford, Ill.

J. N., a man aged forty-five, between two and three years ago consulted me concerning occasional attacks of pain in the loins, in the course of the ureters, and also in the hypogastric region. It was not simultaneous in these regions as a rule; generally when present in the loins, it was absent in the hypogastrium; but when it took the course of the ureters, the bladder was attended with catarrhal symptoms. When the pain was most prominent in the abdominal parieties, constipation was generally noticable. He observed, also, that he had passed blood from the bladder two or three

times, at intervals of some months. He had been under treatment by various doctors, but received no satisfaction from any, and but little relief, and that very temporary. When he came to me he was then in correspondence with and under the treatment of *Dr. Pierce, of Buffalo.* Had submitted a bottle of his urine to Pierce, whose examination found little, if any thing, abnormal in the portion tested.

The symptoms of chronic vesical inflammation being very ephemeral, and muco-pus being absent, catarrh of this organ was eliminated; also, calculus of the bladder was counted out. The man was of stout build and very florid, the vessels in the face being remarkable for their development. At this time I did not pretend at a diagnosis—nothing specifically being tangible. Prescribed a tonic apperient pill with an anodyne, which afforded temporary relief. Medicines direct from the wonderful Buffalo man were continued; but be it noticed that, after the repeated symptoms given and requests for a diagnosis of the trouble, Pierce was ever silent on this point; notwithstanding this, his medicines were used a very long time.

Very soon after the first consultation a severe bleeding ensued, continuing several days, yielding apparently after lessening of tension on some vascular area. This became the order, with this difference—the duration of the hæmaturia increased, but that of the intermission lessened. After some months he consulted me again. I tested his urine for albumen; found no indications of its presence, nor were deposits indicating gravel observed at any time. The possibility of renal calculus was considered, but the symptoms thus pointing were not sufficiently prominent, while some specific symptoms were wanting. As before observed, pain was sometimes observed in the course of the ureters, but it did not involve the cord and a testis, nor thigh; no retraction of testicle, nor vomiting; no constitutional disturbance, beyond what is usual on loss of blood and a medium amount of pain.

Reasoning from the usual diagnostic criteria, I judged that the kidney was the seat of trouble, but *chiefly* from the fact that the blood and urine were voided *intimately mixed.* No

dropsical swellings, no albumen, no tube casts, no passage of gravel, no history of other disease (acute idiopathic disease), no irritant medicines, no cachexia, apparent, but might a hæmorrhagic diathesis be present to serve as a cause? He had been hurt in the back by some cause when a young man, but no apparent disability had been entailed. The case was an obscure one, as others found afterwards. Looking the case over as above, I gave my opinion thus: "Mr. N., I do not *know* your case; am quite sure Pierce, of Buffalo, is treating you blindly; that he knows nothing of your case; my *opinion*, however, is firmly formed, which is: That, considering the highly developed capillaries in your face, I believe you have some over developed ones in your kidneys—one or both—and that from lack of tone in them or from over tension, some of them have been ruptured, and thus produce the bleeding, reflexive irritation accounting for the irregular, intermittent pain." As he was then using with considerable faith the Buffalo medicines, I gave no treatment.

Time passes on, and with it the lesion or disease. The bleeding increases in frequency and continuance and profuseness. Six months additional have passed; his strength declines; he goes out but little. Am called to visit him, six miles from town. Patient is up; looks somewhat pale; is not bleeding as freely now; urinates during my visit; urine not *deeply* tinged, but distinctly bloody; I take that emission home, but find no more albumen than the blood present would account for. His pulse was full at about eighty, but very compressible; *skin quite moist;* ankles disposed to slight amount of swelling, accounted for by blood loss and sedentary condition; *appetite good;* no noticeable *new* symptom of importance. I reiterated my former opinion; advised him to cherish his appetite, believing the race between losing and making blood was of vital interest, the odds being evidently in favor of loss. Prescribed ergot, but that he had been taking; advised an increase of dose. Left him. Tr. Ferri Perchlor, Gallic acid, ol. erigeron, and talked of other styptics, so that he may have a circle to prove. Some of these seemed to afford temporary check, but not more. Tr.

Ferri Perchloridi could not be continued—was irritable to the stomach. Supplied him with some nitrogenized iron and albumen as a blood restorative, seeing the former iron was not admissible. This he thought was serviceable, and obtained a second bottle.

About this time a fledgeling came into these parts, "out from the East." He was one of those who prematurely cut the *dens sapientiæ*. He had been to a New York or Buffalo, or some other superior down-East college, but most recently from some obscure Pennsylvania hamlet in the woods. However, of course, he was able. He would undertake the cure of those upon whom many other hands had failed. "By hook or by crook," he got Mr. N. on his hands, had a good show, made a number of visits; helped him as others had done, *pro tem.*, but his curing ability did not display itself; the visits were of more help to the doctor's pocket than the man's system.

A doctor from another town is called. He diagnoses "Bright's *disease.*" The fledgeling is now called down to meet the doctor. They can't agree. The doctor calls in his *partner.* The *partner agrees with his partner.* The case is certainly Bright's disease. They treat him for it; no good results, and presently *they* go by the board. The Buffalo medicine is tried on. Time passes—another six months is fled. The remedies for staying hemorrhage are not discarded. They are yet the *sine qua non.*

Learning that no doctor was then in attendance, I sent Mr. N. a number of the *Monthly Abstract,* that of January, 1877, suggesting that he might like to read the case of the so-called "sporadic hœmophilia (a case I had overlooked or not reviewed when the case of Mr. N. was related to me.) He accompanied the return of the Journal with some communication, saying the case in some measure seemed to resemble his. I kept the communication in the Journal with the intention of using it in making up an account of this case, but presume it was lost when the Journals were bound. Hence I must forego their service here. But *fugit tempus*—nearly a year or more has passed! The race between the making of blood and

its loss is a foregone conclusion; the loss is making rapid strides —is far ahead. The friends are summoned from abroad. Mr. N. is hourly expected to die—is ready for the end. He recuperates slightly, however, and holds out another week, when, after a night of severe pain, he passes into coma and death, December 19.

On the day following his death I saw his son-in-law in town, and remarked that, were the deceased a relative of mine, I would desire a *post-mortem* examination, so many varied opinions having been given. He said he thought no objection would be made should any doctor desire to open him. That evening an invitation was brought up to some three or four to make an autopsy; but as the funeral was appointed for 10:30 in the morning, it was necessary to resort early to the family residence, and about 6 A. M. was the time appointed.

Two of us took the night ride, and were on hand near to time. We waited till after 8 A. M. for others, but time obliged us to proceed—we were dissecting the kidneys when one of the other two came. We had only time to take out the bladder, ureters and kidneys, which we did without detaching the ureters from either organ. The bladder was distended to the size of a fœtal head; the contents were about equally *clot* and fluid. Pertaining to the kidneys, the *remains* of the supra-venal capsules arrested attention—their envelopes were there, *deeply bronzed*—a little pulp remaining, however, to indicate their medulary substance. The kidneys were of normal size, a little softer than is usual—easily accounted for in view of the history; on section, had a healthy aspect to the unassisted eye, saving that a firm deposit of fatty tissue occupied the infundibula about the calyces, to excess. In the *bladder* was the source of the bleeding. *Around the orifice of one ureter*, was a very prominent development of blood-vessels and connective tissue having a diameter of about two inches, of a flabby consistency, the capillaries in a zone of some length and breadth, whose direction was in the line of the orifices of the ureters, gave to the mucus membrane a very fine, but prominent rosy tint, gradually disappearing

into pale, bloodless membrane. Was this a case of vesical hæmorrhoid? The anterior angel of the trigone was not involved.

An examination of other organs was not possible, for want of time. A few queries present themselves, arising from the morbid condition of the capsules. Did the condition of these organs, with their bronzed appearance, pertain to "Addison's disease?" The skin had no patch or spot of that color, nor were any symytoms of that disease apparent that were not the reasonable sequence of the continued bleeding. Was there any relation between the pain experienced and the morbid capsules? Would an endoscope have been of practical service during life? Presuming a diagnosis had been made of the condition in the bladder, could efficient treatment have been applied that would not have entailed a more serious condition, as to increased hæmorrhage, or the induction of vesical catarrh?

P. S.—The first bleeding occurred at the age of 23 years.

PROCEEDINGS OF SOCIETIES.

"Etsi non porsunt singula, juncta juvant."

Papers Read at the Twenty-Ninth Annual Session of the Medical Association of Georgia.

ART. I.—*Diagnostic Value of the Soft Palate, as Compared with the Tongue, in certain Pathological Conditions.* By WM. ABRAM LOVE, M. D., Atlanta.

In the current medical literature of the day—in the authorized text-books of our schools, and, more particularly, in the standard works of the older writers, much stress is placed upon the appearance of the *tongue*, as an index to certain pathological conditions of the system. In an especial sense were these varied appearances regarded as indicative of the condition of the stomach, the intestinal canal, and the hepatic secretions. That these appearances were sometimes erroneously interpreted, was very vividly impressed upon my mind,

in my early professional life, by a foot-note, in a small, but valuable work, then recently from the press. I may be excused for quoting that foot-note, in its entirety, in this connection, as it will serve me a purpose, just here, and may, as it has me, serve others a purpose, elsewhere.

In describing, for illustration, a case of "clavus hystericus of the head, kept up by inanition," the writer says [Billing's Principles of Medicine—Amer. Edit., 1842—p. 220–1.]: "—— there was no fever; the pulse was jerking, as we find after hemorrhage (repeated blood-letting), but not firm; the tongue not foul, but white, as we always find it with an empty stomach." Then comes the foot-note:

"I say, always; and there is not a more common error, than to consider this natural appearance morbid. Thus, persons who are in the habit of thinking themselves, bilious, and taking physics, look at their tongue when they rise in the morning, and find it white. A good breakfast will make it look red, unless they take a dose of salts, Seidlitz powder, or, sometimes, even whether they do or not. The same person will, perhaps, put out the tongue before a looking-glass, just before dinner time, and, seeing it white, forego a part of a wholesome meal, which would bring the tongue to the natural color of redness, which it assumes after eating, from its natural paleness before eating, unless they be gourmands and hypochondriacs at the same time; in which case they will run the hazard of eating, and take a calomel 'peristaltic persuader' afterwards. I have been, constantly, in the habit of warning my young medical friends to consider, when they see a white tongue, what time of day it is, and *not to purge* for merely a white, or, more properly, a pale tongue.

"The tongue is constantly very properly inspected, in disease, as it affords an evidence of the state of the mucus membrane of the stomach and bowels with which it is continuous. In health it is not of a bright red, but has a pale bloom on its surface, in consequeuce of the tips of the villi or papillæ being less injected with blood than the lower parts; when the stomach is empty, it contains less blood, its villi are, of course, paler, and those of the tongue are nearly white;

but observe, the tongue is moist; whereas, in the beginning of synocha or pleurisy, or other inflammation, the stomach is empty from anorexia, and the tongue is white; but it becomes dryer than from a mere empty stomach, and more or less coated, arising from the evaporation of the watery parts of the saliva and mucus of the mouth, which leaves the membrane indued with a more viscid covering than natural. After eating, when the stomach is in a state of healthy activity, the tongue becomes redder; but still it is not of a bright-red hue, which only takes place when the membrane of the primæ viæ is in a congested or inflamed state, as in dysentery, in phthisis when colliquative diarrhœa exists, at the termination of typhoid fever when there has been (in reality) gastro-enteritis or inflammation of the glandulæ agminatæ, etc.

"In the progress of severe fever, when the secretions are suspended, the tongue becomes dry, and the mucus which does exist dries, and forms a brownish or blackish crust, and the papillæ become so much shrunk down to the level of the rete mucosum, that when the tongue becomes clean, on recovery, it looks glazed and smooth, and some time elapses before the papillæ rise up again.

"In chronic affections, accompanied with a languid and flabby state of the primæ viæ, a discolored state of the mucus occurs, constituting, what is called, a foul tongue."

Few more concise descriptions of the pathognomonic indications presented by the appearance of the tongue, will be found in our medical literature; but these relate more particularly to the appearance of the upper surface of the tongue as indicating *physiological* or *pathological* conditions of the mucus membrane of the stomach and intestinal tube, yet the tongue is in many cases—as well as other portions of the oral cavity—an indicator, pointing, to many and varied pathological conditions of the general system, and of special tissues. As a contribution illustrative of this may be mentioned "*a peculiar appearance of the tongue in malarious diseases.*"

While the appearance of the tongue indicative of physiological and pathological conditions of the alimentary mucus membrane presents itself on the upper papillated surface—

the *border* and *outer edges* present the peculiarity indicative of malarial toxæmia. It consists in a peculiar *pectiniforme* appearance of the edges of the tongue, as though these edges had been under the pressure of the sides of the teeth of a comb—just as, in certain "languid and flabby" states of the primæ viæ, we find the edges presenting a crenated appearance, produced by the indentations resulting from the pressure of the teeth in the oral cavity—just within this *pectiniforme edge* making the outer border of the upper surface, of greater or less width, in different cases, or different degrees of malarial toxæmia, there appears a *smooth margin*, both the *pectiniforme edge* and the *smooth margin* presenting a *cleaner appearance* and *a brighter hue* than the other portions of the surface of the organ. For over thirty years, in an active practice, most of the time within malarial districts, these peculiarities of the edges and borders of the tongue have been marked, as indicative of malarial poison, not only in the malarial fevers of the paludal districts, but in the protean forms and varied complications through which the effects of this subtle poison may be traced. While it had been my good fortune, in early professional life, to detect this condition as a pathognomonic indication of malarial poison, which experience, until this day, has more fully confirmed, and, while I have profited by it during these long years of professional toil, still, to my friend, Dr. T. C. Osborne, of Greensboro, Alabama, is due the credit, of having first called the attention of the profession to the fact, through the recognized channel of communication—the medical press (*vide Amer. Med. Assoc.*, 1869), and I take pleasure in awarding him this credit, with the expression of regret, that his paper did not fall into the hands, or attract the attention of more of my professional brethren.

Dr. Osborne has preferred the term "*crenated edge*" in his description given in his paper. This, to our mind, without an illustration (which he presents), would more nearly convey the idea of indentations produced by the teeth in the oral cavity in the "flabby" condition alluded to above, when the term "*crenated*" is applied to such a body or organ as

the tongue; we have, therefore, held to our original descriptive term, *pectinated*, or *pectiniforme*, with the explanation, illustrative, given above.

These allusions to certain conditions of the tongue, as indicative of certain pathological conditions of the primæ viæ, or of the general system, have been made more particularly as introductory to, if not illustrative of, certain other conditions often presented in another portion of the oral cavity, and their value, in a diagnostic, as well as a pathological and therapeutical point of view. We allude to—

THE VALUE OF THE APPEARANCE OF THE PALATINE VAULT AND SOFT PALATE IN DIAGNOSIS.

On the sides of a medium line drawn from the point of the alveoli separating the two central superior incisor teeth to the center of the base of the velum palati, there are two eliptical, or almond-shaped, spaces, where the inferior surface of the palatine bones are covered with only periosteum and mucus membrane, constituting, we will say, *the palatine vault or dome.* An extension of this membrane backwards, united with a like extension from the superior surface of the bone, or the floor of the nasal cavity, to the velum palati and anterior half arches, constitutes *the soft palate*—the palatine muscles, to some extent, taking the place of the palatine bones. This muco-periosteal and muco-muscular membrane is supplied with blood by the superior palatine and naso-palatine arteries, whose branches anastomose with each other and with their congeners. Their capillaries, particularly in the *palatine vault,* though exceedingly numerous, are, at the same time, exceedingly small, so much so that they allow of the passage of blood corpuscles to only a very limited extent in their normal condition, as in the conjunctiva, sclerotica, and other membranes and tissues that circulate, alone, liquor sanguinis, normally, and blood corpuscles pathologically. The great vascularity (capillary) of both the mucus and the periosteal membrane, together with the great transparency of the same and the bony and muscular base, gives us an opportunity of noting conditions that

are of vast importance, both pathologically and therapeutically. Among these may be enumerated:

1st. The color of the liquor sanguinis;

2d. The arteriolic tension, or atony, is resistance or non-resistance to the passage of blood corpuscles; or, in other words, by the inspection of these spaces we are enabled to approximate an estimate of the amount of coloring matter (biliverdine) tinging the non-corpuscular blood tissue, in the first place, and, secondly, we are enabled to approximate pretty correctly the "working" of the vaso-motor nerve system, particularly along the line of the alimentary canal. (This does not apply, we would parenthesise, in cases of local irritation in these palatine tissues, except so far as relates to these local membranes.)

Practically, these facts are of much advantage, and, for over a quarter of a century, I have been in the habit of taking advantage of them as guides in the diagnosis and treatment of disease. During this period, the rule has been, with me, to examine the roof of the mouth as regularly as I have occasion to examine the tongue. So constant has been this habit with me, that I am frequently asked the question by medical students: "*Why do you always examine the throats of your patients in the clinics?*"

I have found that in that condition of the system to which the term "*bilious*" has been applied, this muco-periosteal membrane invariably presents the yellow hue of lighter or deeper shade, indicative of the existence of *biliverdine*, in the liquor sanguinis. This yellow tinge or color will vary in different cases, or at different times in the same case, from the lightest canary, to the deepest orange or saffron, and the depth of shade will indicate the amount of "*biliousness*" or the extent to which biliary coloring matter is retained in the blood tissue. As this tinge deepens, the skin becomes more and more sallow, approaching towards that appearance exhibited in mild cases of acute jaundice. In all cases, and under all circumstances, where bile has been "re-absorbed" or, where it has not been eliminated from the blood—in malarial toxæmia—in duodinitis—in biliary cystitis—and in every condi-

tion of the system, where, by its existence in the liquor sanguinis, or where, as a result of such pathological condition the tissues become tinged, the color will present itself first and deepest in the muco-periosteal membrane in the mouth as designated above. The only condition obstructing its appearance, will be where there exists engorgement, irritation or inflammation, distending the minute capillaries to such an extent as to admit of the blood corpuscles, when the redness of the tissue swallows up the fainter yellow hues. By examining this portion of the roof of the mouth we gain a better knowledge of the condition of the portal system and hepatic action, than the tongue indicates as to the condition of the stomach, in the circulation in its mucus membrane or the action of the gastric glands.

In all that class of diseases in which the general condition of the system demands the use of remedies known as *cholagogues*, of whatever kind, and in all forms and complications experince has taught me that I risk nothing in saying that the muco-periosteal membrane in the roof of the mouth, will, by its yellow tinge invariably, indicate the necessity for their administration—*per contra*, I may say, with equal confidence, that the absence of this yellowness indicates, with equal certainty, that such a class of remedies have been sufficiently used, or are not needed. For twenty-five years this has been my guide, and I do not feel to-day that I have been misled by it. Other members of the profession, whose attention I have called to the fact long years since, tell me that as a guide in their daily professional work, it has served them the same good office. Attention to it will do away with much use of, or rather abuse of, *calomel*.

In other pathological conditions than this, the appearance of the palatine surface will serve a good purpose as a guide. Thus, for example: in all that class of diseases known as *exanthema majora*, the eruption makes its appearance in the roof of the mouth, from *twelve to twenty-four hours*, and, in many instances, longer, before it appears on the cutaneous surface. In *small pox*, in *scarlet fever*, in *measles*—in all their grades—the eruption may be looked for, with confidence, in

this region long before it can be detected at any other point, and, as the eruption is often the last link in the chain of evidence necessary to decide a question of diagnosis, the knowledge of this fact will always equal the importance of the question at issue—it has, in some instances, served me a valuable purpose.

In *intestinal* irritation and inflammation, in the approach, progress and decline of enteritis and dysentry, the soft palate is a better indicator as to the condition of the intestinal mucus membrane than the tongue.

The effects of the retention of the effete matters, biliverdine and cholesterin, are, depression of the nervous system, interrupted functional action, frequently depression of cardiac action, neuralgia, and every variety of pathological symptoms, not necessary to dwell upon in a paper like the present. The sole object of which is to direct attention to the soft palate and its value in diagnosis, particularly in bilious derangements.

ART. II.—*The Tar Bandage.* By C. B. LEITNER, M. D., Columbus.

I wish to call the attention of the medical profession to an efficacious and new (to me at least) dressing for wounds, namely: the tar bandage. The advantages that I claim for this dressing are, its perfect protection against the deposit of the fly; the stability with which it retains its position; and, if the theory be true, as a preventive and a destroyer of parasitic organisms. I am satisfied now, had this treatment been adopted during our late civil war, hundreds of lives would have been saved by it, if from no other cause, certainly from its protective powers against inoculation from erysipelas, gangrene, etc., for this bandage acts as a perfect shield to the wound.

I could record six or eight cases treated by this process, but will report only one, a very difficult and obstinate case, of a negro man, thirty-five years of age, deaf and dumb. On the 27th of July, 1875, this negro was run over by the cars. His tibia and fibula, six inches below the knee, were crushed,

the soft parts converted into a fibrous mass, leaving, however, enough of the gastrocnemius muscle to form a flap. Assisted by Dr. Wynne, I amputated the leg two inches below the lower insertion of the tendon of the patella. The flaps were drawn and two or three sutures taken, then tarred strips of cloth were applied, as adhesive strips would have been used, for six to eight inches above the wound. The roller bandage was then placed over these, and the whole well tarred.

I wish to call attention to another advantage connected with this dressing—that is, it does not require re-adjusting so often as other modes, only twelve or fourteen days, unless some constitutional disturbance should be apparent.

The leg was not dressed again until the 6th of August, notwithstanding the weather was the warmest I ever experienced in Georgia, and the subject perhaps one of the worst that ever experienced such an accident. His bowels were loaded with unripe fruit, and with every kind of foreign matter that a tramp at that season of the year could procure, besides he had upon his head, arm and shoulder two or three badly contused wounds, which were treated by the application of tar ointment. The leg was not dressed the third time until the 2d of September, when he was turned over to the nurse, and in a week he was out upon crutches.

In applying for the first time the bandage, at the most dependent part a little V-shaped valve was cut, to allow the escape of pus. He was not annoyed by a fly, or by any bad symptoms, and the recovery was very speedy, which I attributed to non-interference with the bandage. I am perfectly satisfied in my own mind that the frequent dressing of wounds is a source of great irritation, to say nothing of the amount of granulations that are broken up. Should there be any mischief going on under the bandage, the constitutional effects must be apparent.

I have had five or six other cases, though not of so serious a character, in which the bandage was never removed until the wound was entirely well. I will report, however, a case of a negro woman, Elvira, aged sixty years, upon whose hand fell a large window-sash, laying open the index finger

its entire length, to which the tar bandage was applied, and not removed until a perfect recovery had taken place. In four other cases the wounds were made by sharp instruments, in which the same treatment without the sutures was used, and the result, in every case, was identical.

My manner in preparing this fresh pie-tar ointment, is to put the tar into a glass vessel, and place the vessel into a pot containing water; after the water has boiled for a half hour, the vessel containing the tar is set aside until all the foreign matter is precipitated; then decant, leaving the foreign matter at the bottom; finally, add one part of sweet oil to twenty parts of the tar. After the roller bandage is adjusted in amputations, this ointment should be thoroughly applied, once in four or five days being sufficient. In wounds, cloth strips can be used as one would use adhesive strips. I would recommend cold water dressings to the wound.

I hope my professional brethren will give this a trial, and meet with the same success that has attended my efforts.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

NEW YORK, January 5, 1879.

Prof. E. S. Gaillard:

DEAR SIR,—Saturday, January 4, Prof. Sayre introduced to the class the venerable surgeon, Mr. Callender, successor to Sir James Paget, of Bartholomew's Hospital, remarking "that the time had *now* come when trans-atlantic surgeons and physicians read and studied with pleasure and profit the works of American authors. This free interchange of ideas will beyond all cavil redound to the continued progress of medicine and surgery." [Continued applause.]

Mr. Callender arose and extended thanks to Prof. Sayre for the favorable manner in which his name had been brought before the class, and thanks to the class for their seemingly high appreciation of having an English surgeon visit them. [Applause.]

He stated that he had left his home in search of knowledge. Since arrival in New York, had repaired to hospitals, and was favorably impressed with their construction, ventilation, neatness, and management, and the unremitting care that patients receive from the hands of skilled physicians and surgeons; and added that it reflected great credit on the attendants. Turning to Prof. Sayre, he stated that he feared he was intruding on his valuable time; to which Prof. S. replied in the form of a motion, to permit this "man of *wisdom*" to continue his remarks, as the weather being so intensely cold, would forbid his operating; which met with the highest approval from the class.

Mr. Callender said that the chief duty and object of the surgeon was to "allay pain, afford rest." When a solution of continuity of tissue exists, it was the surgeon's chief aim to procure union by first intention; the means of so doing does not differ from those that are employed by our enlightened surgeons at the present day, viz.: to secure a proper co-aptation of the parts by application of plasters, etc., etc., and the adoption of anti-septic measures. The manner in which he treats cuts about the face, lips, and other portions of the body that are susceptible of being rendered tense by muscular action, is rather unique; but it indicates conclusively that he adheres to his text (to relieve pain). Prior to the operation he applies his plaster and accustoms the parts to his dressing; thereby the sensibility of the tissues are so obtunded that when they are united, alternate muscular rigidity and relaxation are not accompanied by the intense pain that would otherwise attend. The operation for the removal of cancer of the breast is conducted under the carbolic spray. The arm on the affected side is suspended in a sling or bandaged to the sides of the chest, for the purpose of allaying muscular irritability; the flaps are brought together by means of adhesive strips, which are not removed until union is completed, as frequent application of dressing involves more or less pain; a drainage tube is inserted to prevent the absorption of pus, etc. Pyæmia is reduced to the minimum by resorting to these measures. When

it becomes necessary to attend to the cleanliness of the wound, a fenestrum is cut, and after proper ablutions, it is closed by building pens of short adhesive strips to the level of the surrounding ones. He assured the class that what constituted a good surgeon, was the "proper attention to small things," for example: when the arm was withdrawn from the sling, or released from the bandage, it should be supported by grasping the hand around thc middle of the biceps, as then the pectoral muscles will *not* be thrown into a state of excitability. On the contrary, if the arm is not supported, there will exist no antagonism of the muscles; and the contraction of the powerful pectoral muscles, would excite gaping of the wound, which offers an insuperable barrier to the obtainment of union by first intention.

At the conclusion of these remarks, Prof. Sayre acknowledged that it was in accordance with his teaching; and added that those who HAVE, must be charitable; therefore he would be pleased to hear Mr. C. adduce to the class his treatment of abscesses. To which this distinguished surgeon replied: The treatment generally employed in his country after evacuation of the pus, by a free incision, was a rigid adherance to the precautions recommended by Prof. Lister. He advocated ablutions of warm water and cold mixed in the the proportion of twenty parts of the latter and ten of the former, with one part of carbolic acid (in 1c to 30 w) by means of a syringe, armed at its distal extremity with an India-rubber nozzle. He hyperdistends the walls of the cysts by the injection of the above, and does not arrest the action of his syringe until all of the products of inflammation have been washed away.

As a speaker, Mr. Callender is impressive. His effort was one which carried conviction with it, and its strength and symmetry reflects great credit on him.

We trust that his stay in New York will be a long, prosperous, and happy one, and that we may again have the pleasure of hearing this profound teacher adduce truths that are unassailable. I remain, as ever, your obedient servant,

W. D. TAYLOR, M. D.

Messrs. Editors:

The excellent article on "Shock," in the November and December issues of your journal, by the much lamented Dr. Easley, suggested the publication of the following death from mental impression:

A few weeks ago I was requested by Dr. W. H. Hopkins, of this county, to amputate the leg of a patient of his, who was suffering from gangrene. On reaching the point, six or seven miles in the country, I found the patient to be a negro man, about sixty-five years of age, with senile gangrene of the right foot and ankle. The other leg was sound. His pulse was strong and full; extremities warm, not much emaciation, and altogether he seemed to be in a fair condition to bear the amputation of his leg, at the point of election, below the knee. While waiting for whisky, to give him before chloroform, I noticed his becoming very nervous, restless and apparently alarmed about the operation, as indicated by groans, sighs, and expressions of a supplicatory character; so I endeavored to quiet his apprehensions by words of comfort and hope, and a small dose of morphia.

After waiting at least two hours for the whisky, he was placed on the table for operation. While Dr. H. O. Miner was applying an Esmarck's bandage, and Dr. J. S. Featherston waiting, chloroform and towel in hand, to commence administering the anæsthetic, the patient suddenly had a slight rigor, his eyes became fixed and suffused, he gasped once or twice, and was dead.

Some effort at resuscitation was made, but it was too evident that he was unquestionably dead, and we could only congratulate ourselves that the chloroform bottle had not been opened, and no part of the operation proper commenced.

The old man, of course, was much debilitated by age, and the decaying limb, but he seemed to have strength enough to bear the operation, and I believe could have done so but for the terrible fright and dread of the knife, which so *shocked* his nerve centers as to crush out life instantaneously. There was a fatal sedation of the brain and spinal cord, under the influence of the peculiar

mental emotions harrassing him at the time. He was scared to death—not having far to go. Had he made a single inhalation of chloroform, not one of the six physicians present would have doubted that this killed him; and I am quite certain that I should have placed it upon record as a death from chloroform. And who knows how often this may have occurred in the past? How many cases have been reported as deaths from chloroform, that were due to mental shock? Very many, I am convinced. S. V. D. HILL, M. D.

MACON, MISS., December 24, 1878.

CHEMISTRY AND PHARMACY.

"Diruit ædificat, mutat."—HOR.

CONDUCTED BY C. W. NULL, M. D., LOUISVILLE, KY.

From the very first discovery of cinchona, and the introduction of its alkaloids into the chemical and therapeutic world, down to the present period of its eventful history, its value and reputation as a great medicinal agent has increased and spread, until its use is now commensurate with the practice of scientific medicine and the extent of civilization. Its importance to the human race rises above the ordinary attribute of a simple medicine, and assumes the dignity of one of the "stern necessities of life." In those districts and territories reeking with pestiferous poisons, and scourged by malaria, the fever-stricken natives are forced to dose themselves daily with it, from year to year, as systematically and regularly as they "partake of their daily bread."

The native forests of South America are no longer able to meet the immense demands, coming, as they are, from every quarter of the globe. The ken of far seeing men has long since foretold this inevitable condition; and the question of its final exhaustion in these well-known districts is a suggestion of no recent origin; but as early as a quarter of a century ago it was a matter which commended the attention

and energy of some of the wisest and most enterprising governments of earth. England, France and Holland have all expended large sums of money in their great efforts at introducing the cinchona tree into other climates, and opening up new fields for its growth and production.

England has been most successful in her great eastern empire, and her large orchards and extensive plantations bid fare ere long to rival in quality, and in quantity of production, the primitive resources of its native habitat. Her cinchona trade is rapidly becoming an important element in her wonderful commerce. And the market of to-day is largely supplied from that source. It is now well-known that the East India bark is even superior to the American, yielding more richly the valuable alkaloids. Yet, with all the new resources, their yield of the alkaloid quinia is vastly insufficient to meet the augmenting wants of the professional world. It has been seen that, as the demands increase, just so the cost to the unfortunate consumers advances. This plain fact renders the question of its economic use a thing of great national concern; and has already put to action the energy and genius of the profession, the chemists, the manufacturer, to discover resources and substitutes. Much, too, has been said in this direction. The by-products in the manufacture of quinia are almost numerous, and it is the testimony of many of the ablest and most competent observers in the profession, that some of these by-products should hold a position of importance pre-eminently higher in the therapeutic scale than they have hitherto occupied. And now, in order to place them there, it is only necessary for us to disrobe ouselves of deep-rooted prejudices engendered by an innate capacity to mistrust and refuse innovation upon old and long-tried principles. A thoroughly instructed professional opinion will clear away all difficulty.

That quinia stands first, and that all the other alkaloids are subordinate, there is no question of a doubt; but this fact does not in the least detract from their importance when we take into consideration the cost and the circumstances of the poverty-stricken people. Some of these alkaloids, as qui-

nia and cinchona, have absolutely superseded quinia among some practitioners; but some have been accumulating for years on the hands of the manufacturers, as heaps of dead capital, for which the public have paid dearly in the way of advanced prices on the more preferred alkaloid.

Among these may be numbered the alkaloid cinchona. We have before had occasion to give to the public our experience with the use of this important drug, and the claims which it holds on the profession. Our extended experience since has been still more confirmatory of what was claimed for it at that time, and many other close and vigilant observers have given the same satisfactory testimony, so that we are convinced that our deductions are founded upon correct data.

We find the following to be about the substance of our conclusions:

(1) That its physiological action is for all intents and purposes the same as quinia.

(2) That it will fulfill the indications for quinia in most cases where that drug is used.

(3) That it will require larger doses to get the effects.

(4) That it is not as certain antipyretic as quinia, probably from the comparative slowness of its absorption.

(5) That it is tasteless, and hence more easily administered to children and delicate females.

(6) That it has less tendency to cause gastric disturbance, and may be given and retained where quinine would be ejected.

(7) That if taken about meal time the peptic acid will be sufficient to dissolve it without the addition of an artificial acid.

Doctored Wines.—The syndicate of Narbonne, France, have formally complained of late to the Minister of Agriculture that adulterated wines are sent into the country in quantities from Italy, Spain and Portugal, and yet the wine-growers of the Department of Aude are notoriously guilty of the very thing they object to in their neighbors. Fuchsine, so commonly applied to impart a ruby red to spurious wines, is

prepared by adding arsenious acid to coal-tar aniline, and is known and universally conceded to be poisonous. Other coloring matters, less dangerous than fuchsine, but still very injurious, are constantly used in the base admixture that goes by the general title of wine. Among these are campeachy wood, extract of mallow, cochineal, rosaline, colorine, black mulberry juice, red beet, poppy, and any number of fancifully-named decoctions from vegetable, mineral, and animal sources. The grocers and druggists of Narbonne do a steady business in selling coloring and chemical substances to the wine-raisers of the district. All over Europe the corrruption and poisoning of wines is now caried on as a regular trade.—*Drug Circular.*

CARBONADO.—For some time a black, shining mineral has been found in Brazil, which has been found to consist of pure carbon. It is as hard as the diamond, and being much cheaper than even the smallest diamonds, it finds useful application for cutting diamonds. It enters into commerce under the name of carbonado, and is frequently found in the districts of Bahia in pieces weighing over 1,000 carats.—*Drug Circular.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Index damnatur cum nocens absolvitus."

ART. I. *The Antagonism of Therapeutic Agents, and What it Teaches.* By J. MILNER FOTHERGILL, M. D., Edinburg, pp. 160. Philadelphia: H. C. Lea; 1878.

It is pleasant to note that the Fothergillian of the Medical Society, for 1878, was awarded to this essay, and that it fully merited the prize thus bestowed.

The title of this *brochure* is very suggestive, and the contents maintain throughout the interest the title suggests.

It is true these pages are marred by oft recurring evidences of rapid and careless writing, which are frequently observed in the author's other works, especially the Practitioners'

Handbook of F . Nevertheless, this essay is an able and interesting contribution to a most important department of practical medicine.

The first part of the work is devoted to an experimental inquiry into the antagonism of various remedial agents. The author exhibits excellent judgment and taste in omitting all negative results and useless details.

The second chapter contains a practical inquiry into the action of different remedial agents, and presents a very fair resume of the present state of knowledge on the subjects mentioned.

The author's remarks on the calmative effects of *Calabar bean*, in certain forms of insomnia, are especially interesting, and deserve careful attention.

Chloral Hydrate.—Two points of importance relating to the effect of this drug are emphasized: First—That the energy of the action of chloral is in proportion to the development of the cerebral hemispheres, and that therefore this agent is not dangerous to the most intellectual. Second—The importance of maintaining the temperature by external means, in persons poisoned with chloral, for the lethal dose is much smaller in cold than in warm weather; the latter has been demonstrated in experiments upon the lower animals.

Morphia.—The author brings out in strong contrast the antagonistic action of morphia and atropia upon respiration, and calls attention to the similarity of their action upon the reflex mechanism. In the coma of opium sleep or poisoning, there is a low blood pressure, while the delirium of belladonna poisoning is due to the high blood pressure induced by this agent. The author suggests that belladonna will enable the centers to continue in action under large doses of morphia without marked interference with the action of the latter upon the cerebral spinal centers.

Strychnia.—This agent exerts a powerful influence over poisonous doses of chloral, and chloral exerts even a greater power in counteracting the toxic effects of strychnia. From this fact it is argued that strychnia stimulates respiration, and the author recommends its use in chronic bronchitis, emphy-

sema, etc., especially as it is also known to act as a cardiac stimulant. Fothergill considers strychnia superior to digitalis, as an antidote, to aconite.

The fourth chapter is on the action of drugs upon the respiration. It is worthy of the highest praise.

In the fifth chapter is considered the action of drugs upon respiration. The antagonistic effects of atropia and calabar bean, of strychnia and chloral, of belladonna and aconite, of strychnia and aconite, etc., are treated of at length and in a manner clear, concise and practical. In treating of the combination of respiratory stimulants and depressors, Dr. F. recommends the administration of ⅓ grain of morphia with 1-30th grain atropia for the relief of the hacking cough of phthisis. The beneficial effects of combining these two agents are well-known among us, but surely this dose of atropia, 1-30th grain, is rather uncomfortably large.

The sixth chapter is on the practical use of the antagonism of drugs in actual poisoning, and is of great practical utility.

The seventh chapter is a recapitulation of the first part of the essay.

This essay is of unusual interest, and the publishers deserve the thanks of the American profession for having so speedily placed it within the reach of every one, and in a form which appears even more attractive than the English edition.

O.

MISCELLANEOUS.

"Non omues eadem mirautur ament que."

TOBACCO SMOKE.—*Chamber's Journal* recalls attention to the evils resulting from smoking, now so generally practiced by boys. It appears that the German Government has taken the matter seriously in hand, as smoking has been practiced in great excess by the youth of that country, so that it has been considered to have damaged their constitutions, and incapacitated them for the defense of their country. In certain towns of Germany, the police have been ordered to forbid all

boys under sixteen years of age to smoke in the streets, and a punishment by fine or imprisonment is meted to offenders. Moreover, a Belgian physician has found, during a journey of observation and inquiry, made at the request of his government, that the too general and excessive use of tobacco is the main cause of color blindness, an affection which is occasioning increasing anxiety, both in Belgium and Germany, from its influence upon railway and other accidents, and also upon military efficiency. The evil might be greatly moderated, were the medical profession to impress upon parents the importance of their peremptorily forbidding their sons smoking, until they had reached a certain age.

Capsicum and Quinine.—Capsicum combined with quinine will diminish the size of the dose requisite, and the same may be said of ginger and other aromatics. A good dose of capsicum combined with twenty grains of quinine will act as well as thirty grains of quinine without the capsicum. Spices in general stimulate the portal circulation, and promote the flow of bile, and hence their universal use in hot climates. There is a tendency on the part of quinine and capsicum to purge, and some times to purge violently. In such cases the purgative action is caused by the increased flow of bile produced by the capsicum. Ginger and quinine when combined do not purge, and it makes a very good combination. If the medicine is administered in form of pills, capsicum may be preferable, because of the less bulk required; but if desirable, the ginger may be given separately, and with the same effect as when combined with quinine. The proportions should be one grain of capsicum to three grains of quinine; with ginger, one grain of each.

Effects of Varnishing the Skin in the Lower Animals.—When varnishing is complete the duration of life is short; when it is partial the fatal issue may be delayed for a good many days. From one-eighteenth to one-twelfth of the total surface of the body may be varnished with impunity; but when the proportion exceeds one-sixth death is inevitable,

unless the animal is packed in cotton-wool or kept in a warm chamber. Two theories have been brought forward to explain these phenomena. Lomikowsky has considered it necessary to reinvestigate the subject, with a view more especially to ascertain the reason why the temperature of a varnished animal should sink so rapidly as it does. By means of the thermo-multiplier he has proved that radiation takes place much more freely from varnished than from unvarnished areas of skin. The difference is sufficient to account for the loss of heat and the fall of temperature, which may thus be regarded as physical than physiological phenomena. The symptoms observed during life and the changes found in the viscera after death may all be accounted for by the cooling. They are absolutely identical with those observed in animals killed by exposure to cold. When the cold is extreme death occurs rapidly, as after universal varnishing. When it is more moderate inflammatory changes are excited in internal organs, more particularly in the kidneys, and life is destroyed indirectly, as a consequence of uræmia. Here, again, the analogy with partial varnishing is complete.—*Medical Press and Circular.*

A Clear Case oe Drunk.—Rev. Clayton will not lose sight of a joke at the expense of the profession. He relates that a patient was seized with a sudden illness and called in his physician. The doctor suspected that his patient had been drugged—*feared* the possibility of self-drugging with alcohol. He called in a brother doctor to aid in the diagnosis. Now it so happened that the patient wore one artificial eye. Dr. No. 2 examines the case carefully; lifts up the lid of the false member, and remarks solemnly: "There is no action of the pupil—it neither contracts nor dilates—it is fixed—no drugs—*a clear case of drunk.*"

Early Puberty.—Dr. H. Yates, of Kingston, Canada, reports the following extraordinary case of early puberty in the *London Lancet:* The child, a female, is two years and three months old. I was consulted by the mother, who sup-

posed it had some mammary disease, there being a symmetrical enlargement of both glands. Struck by their appearance, I had the child stripped, and found what appeared to be a fully-developed woman! Abundance of hair on the pubes and in the axillæ. The genital organs, as well as the mammæ above mentioned, seemed to be fully developed. For the last three monts the child had menstruated regularly three days every four weeks. She was flushed, and complained of headache and pain in back and thighs while menstruating. She weighed forty-eight pounds.

Anæsthesia in Parturition.—Dr. A. H. Halberstadt, of Pottsville, makes a very earnest plea for a frequent use of chloroform in parturition. The paper is written with force, and attempts to show the increased immunity from danger of the woman in labor, and its especial value in eclampsia; that there are no diseased conditions that permit pregnancy to occur, where anesthetics will be inadmissible. While we can indorse much of this paper and its general teaching, it will not do to make the sweeping statement that the free and constant use of chloroform with the parturient woman is always without danger. We call the attention of Dr. H. and our readers to a very temperate paper by Dr. Lusk, of New York, read to the American Gynecological Society, at its Boston meeting, in 1877, on "The Necessity of Caution in the Use of Chloroform During Labor."

MEDICAL NEWS.

"Nulla dies sine linea."

Tobacco.—Mr. Nettleship has contributed to the *Medical Times and Gazette* a series of fourteen cases, in all of which tobacco had had an injurious effect. Most of them were confirmed and large smokers. The characteristic symptom was dimness of sight (amblyopia) more or less produced, which was improved in every case by ceasing to use tobacco.—*Southern Clinic.*———*Lady Physicians.*—It is reported that

two young ladies, an American and an Austrian, have taken degrees as doctors of medicine at the University of Berne, having passed excellent examinations. A young Swiss lady has taken the degree of Doctor of Philosophy in the same institution.———*Closed Vacant Houses.*—The *Londan Lancet* mentions the assertion of a sanitary officer, namely, that when houses are re-occupied, after having been empty for some time, an outbreak of typhoid, diphtheria, or other zymotic affection, often occurs. The cause is supposed to be an absence of water in the cistern and pipes, and the presence of foul air from the main sewer, and the closure of all windows and other means for the admission of pure air.———Evidences are accumulating in favor of nitrite of amyl as a prompt and valuable cardiac stimulant in cases where a quick action is needed. Unfortunately, however, too many physicians are afraid of this useful preparation, notwithstanding it has never done any harm, even when inhaled in half-drachm and drachm doses.—*Medical Brief.*———C. H. Griggin, M. D. (Vienna, La.), recommends as a remedy for ivy-poisoning a saturated solution of chlorate of potassa, applied locally to affected parts. By this means he is sure to cure or greatly improve in twenty-four hours the worst of cases.—*Medical Brief.*———Jaborandi, by its sodorific properties, and by its exciting action on the glands of the air-passages and salivary glands, combines the principal effects that have heretofore been sought from various medicines. An infusion of one drachm of the leaves in a small quantity of water constitutes an efficient means against colds, if taken early.—*Med. Brief.*———Dr. Schartzke speaks highly of salicylate of soda in the treatment of nervous headache. He gives at the onset thirty grains of the drug dissolved in half a glass of sweetened water.—*Berlin Klin. Woch.*———*Ergot in Trichinosis.*—Dr. Rhode, in the Berlin *Klin Wochenschrift,* states that he accidentally discovered that the free administration of ergot, especially of ergotin hypodermically, is a speedy and positive curative agent in trichinosis. In one case eight grammes of ergotin effected a rapid cure.—*Ohio Medical Record.*———*Dental Anæsthetic.*—The best local anæsthetic for dental operations is

said to be the extract of eucalyptus. Apply one drop on cotton to the sensitive dentine just before excavating.—*Boston Medical and Surgical Journal.*———*Enlarged Spleen.*—Iodia has been recently given by the editor of this journal with the best effect in the treatment of enlarged spleen, following an attack of acute splenitis of malarial origin.—*St. Louis Cli. Record.*———*Permanent Cure for Costiveness.*—℞. Sodæ sulphatis, gr. xx.; Ac. nitro-muriat, gtts. v. Water, sufficient to dilute. Take one hour before breakfast.—*Med. Brief.*———The late Dr. Jacob Bigelow, of Boston, was mainly instrumental in the establishment of the beautiful Mt. Auburn Cemetery. He met with much opposition, and was accused of trying to entice people to bury their dead in the country where the doctors could snatch the bodies in comparative freedom. One man went so far as to say that he "wouldn't be buried in the woods as long as lived."——— *Value of Alcohol to English Doctors*—If it were not for drinking, the great mass of the profession might retire from it to-morrow, because it is one thing of all others combined which gives them employment, whether it be secret drinking of the ladies, or the open drinking of the gentlemen.—*Dr. Kerr, in London Med. Press and Circular.*———*Chloral as a Counter-Irritant.*—Among the many uses to which chloral has been put, we have not met before with the following from the *Bulletin Therapeutique:* "Made into a mass with gum tragacanth, spread on paper and applied to the skin, it will produce a blister without pain. Applied as a powder, on cotton, it causes a painful burning sensation. By the former method, a portion is absorbed and the patient falls asleep. Its action is not so uniform as cantharides, but it is a mild vesicant, or an agreeable revulsive. The author quoted would commend such 'chloral paper' to physicians, the more so, as it will keep for months without losing its activity if well prepared."——— The village of Atlanta, Georgia, finds itself possessed of more medical talent than can be accommodated in one medical college. A charter for a new college has consequently been sought, and will doubtless be soon granted.—*Cin. Lancet and Clinic.*

RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I. *Notes of a Case of Chronic Atrophic White Softening (Ramolissement, "Necrobiosis" of Virchow) of the Brain.* By JOHN B. RICHARDSON, M. D.*

Authorities tell us "White Atrophic Softening, or degeneration of the brain, may take place as a result of old age, or from intense mental labor, or excitement; from intemperance, or from embolism; *i. e.*, obstruction of an artery within the brain by a fibrinous clot carried from some other part."

Hammond, under the head of Etiology of Cerebral Softening, says: "Age is certainly a strong predisposing, if not an actual exciting, cause, although the disease is observed at all periods of life. No statistics have been collected relative to the influence of sex, although the opinion prevails that it occurs more frequently in females than males. Intense and long-continued intellectual exertion is one of the most common causes. Rostan," says Hammond, "among the causes, cites insolation, the action of intense cold, blows upon the head, and the excessive use of alcoholic liquors. The influence," continues he, "of obliteration of the cerebral arteries, sinuses, veins, and capillaries, in producing partial cerebral anæmia, and hence, as leading to the supervention of softening, has already been dwelt upon."

*Read before, and published at the request of the "Medico-Chirurgical Society," of Louisville, Ky.

November, 1877, Mr. ———, aged 64 or 65 years, a highly cultivated and intelligent gentleman, with a muscular system well developed for one of his age, and with no history of syphilis; has led a very active life, both mentally and physically; has been a great pedestrian, having traveled over all Europe, and has walked during his travels, he tells me, many times, ten or twelve miles before breakfast, and ten to twenty miles during the rest of the day. Three years since, had first intimation of failing health; digestion becoming weak, but no distaste for food; assimilation not keeping him up to his usual weight; spirits depressed, which finally reached a mild form of hypochondria. Symptom first noticed in *muscular system* about two years since was a lameness, or want of power and muscular control in left upper extremity, which limb he has nursed, carrying it in a semi-flexed position. He then observed movements of left leg were sluggish and shuffling; when he arose from his chair and attempted to start off in a walk, the left toe often touching the floor or ground so as to trip him if not very careful in its management. In business matters, he became a great procrastinator, deferring from day to day, and from week to week, matters requiring *immediate* attention, and was unable to assign any reason, either to himself or his relatives upon their inquiring why he did so, other than "I have neither mental or physical inclination or ability to do so, but will in a day or two, or next week, when I feel better."

He has been subject to mild expressions of indigestion for years, which were greatly exaggerated in his own estimation, forcing him to look upon himself as a confirmed dyspeptic, and limit his diet at times to oat-meal porridge and cream and milk, thus following his belief: "The cure for nervousness is breathe plenty fresh air; for indigestion eat the plainest and most easily digested food, and that in small quantity."

Head symptoms: Pain almost constant (but subject to exacerbations) in base (posteriorly), also over whole top of cranium; at times he compared it to a hot lid applied to top of head, sometimes localized at inner corners of eyes, or like a constricting hot band around whole head, or sense of con-

striction would exist without any feeling of heat accompanying it, causing him to feel for his night-cap at times when it was not on his head. Has had scintillations before eyes, but none now. Sees on objects in his rooms, white shutters for instance, upon which the light is reflected or directly impinges "millions of flies, as you see on patent fly-paper; sometimes they are crawling all over each other, at others remaining quiet." These objects have gradually increased in size. Saw upon several occasions small-sized trees growing in a few moments from his attendant's head, first the body, then the branches from the body. Sometimes these objects appear to patient "like whole tribes of indians, then like flocks of partridges." In fact, they vary from large to small and then from small to large, observing no rule as to either size or number. I recall one occasion when sitting quietly in company with his son and myself, giving me the details of his condition for the preceding twenty-four hours, he said rather quickly, so quickly that it slightly startled me, "My son, there goes a partridge immediately under your chair! See it? Catch him! Quick!" And then smiled, appreciating it was not a partridge, but one of those objects he frequently saw. On another occasion, and under similar surroundings, he said to me very mildly, and as though it was a part of the topic of conversation then under investigation, "Now, doctor, I see (said he, smiling) on my son's forehead, printed in large white letters, the word 'GHOST;' and then," continued he, "it is a fortunate thing, is'nt it, that I don't believe in ghosts?"

Eyes at times become quickly congested (conjunctiva), accompanied with ptosis of both lids, more marked always in left, and then, after giving him some pain and photophobia, the congestion slowly disappears. He attributes both congestion and ptosis to bright light. Ptosis exists without the presence of this congestion, or if the patient remains in a dark room. Articulation hesitating, thus: ha, ha, ha, ha, ha, h———a, how are you Doctor? (drawling) with thickness of speech, as though tongue was swollen or too large for his mouth. Protrudes tongue very slowly and tremulously, but no lateral deviation during or after act of protruding this

organ. Up to six weeks ago, greatly increased insalivation, dribbling out of mouth and over lip, chin and beard, as though it was too rapidly secreted for him to swallow, or his power over motions of tongue and mouth muscles was not normally perfect; this he complained of often, and it seemed to mortify him exceedingly at times. Mind would on account of his inability to keep his teeth cleansed, as he can not make the short muscular movements necessary in using his tooth-brush; consequent upon this he has disagreeable accumulations in his mouth, which he is forced to swallow, producing nausea; this nausea is to a marked degree mental, if not more so than real.

Extremities: as above stated, lameness of left arm has existed for two years, during which period he has not been able to make any deliberate muscular movments; power of grasping one's hand much less in left than in right hand, and movements of lower (left) extremity shuffling, irregular and uncertain, or, as he expresses it, "stuttering." Under emotion, movements of both upper and lower (left) extremities good, but then short in duration. Has invariably, after arising from his seat, to be very careful in well establishing his equilibrium upon one leg before placing weight of body upon other leg. Coughing sometimes causes contractions of left upper extremity, and, when patient is in sitting posture, of left lower extremity. He has cold chills over whole body and extremities, more especially from waist down to feet; upon closer investigation these chills prove to be formications. At times has some irritability of uretha, which he locates at neck of bladder, and again at fossa navicularis. No difficulty in voiding bladder, only at latter part of act, when he seems to wait for contractile power to accumulate. Urine at several periods of latter days of illness was alkaline and heavily loaded with triple phosphates, which would soon disappear when an acid and tonic mixture was administered; then again it would become highly acid, and quantity fall. Heart upon several examinations yielded nothing unusual. Has frequent painful muscular contractions, elevating the great and second toes of left foot, and flexions of balance of toes of left

foot, with flexions of all of toes of right foot, which cause painful cramps of feet and legs, more particularly of gastrocnemii muscles, which can be temporarily relieved by firm pressure gradually applied against balls and insteps of feet, and gentle molding pressure over dorsum of feet and toes, but the least pressure or the touching of the ends of the toes causes immediately an increase of contractions, and the suffering is rendered unbearable, forcing the patient to implore you to desist. These contractions would be brought on if patient drank a mouthful of cool water, and for many weeks he drank only of water very warm, and he would call for it every few minutes both night and day. There is marked hyperæsthesia of whole surface of body and extremities, more marked, as above stated, at terminal ends of nerves, upon pulps of fingers and toes. Complains upon your touching any part of his body, ever so gently, in your endeavors to assist him in any movement, that your hands or fingers, at normal temperature, feel to him like "balls of fire" or a "young stove," and cause him to feel very nervous.

Intellect perfectly clear upon all subjects; reasoning power good, but his articulation being sluggish and thick, he consumed more time than usual in expressing his ideas.

Memory remarkable, even regarding the minutest facts or details of occurrences long gone by. His mind is continually upon his organs of digestion, whose actions he too well understands. Has had (and still has when raised rapidly from supine to sitting posture) considerable vertigo. A great source of annoyance to patient is a feeling of numbness in his extremities, as if they were asleep. Muscular debility is marked. It is very difficult for him to let go of any object (fork, for instance) which he has grasped. He says it is no trouble for him to catch hold of any object placed between his fingers or in his hand, but if he attempts to close his fingers or hand, knowing there is no object there for him to grasp, he can not close his hand or fingers. Closing his eyes does not affect his walking, standing, or grasping power. Temperature never above normal. Pulse variable, ordinarily normal, but when he is very weak reaching 104.

Slight partial paralysis (of motion) of muscles or sets of muscles of both upper and lower extremities, which are intermittent and irregular in their recurrence. Irritability of temper, and at times hard to please, constantly making "mountains of mole hills," with great fear that his friends and relatives are tired waiting upon him so long and so much.

Patient has suffered for many years from chronic nasal catarrh, which now is a great source of annoyance to him, as from his inability to move about he can not use his douche as he formally did with great regularity. This nasal secretion, at times, is quite profuse, and not being able to expectorate it, he is forced to swallow it, and he is in constant dread of its presence in the stomach and alimentary canal proving of serious injury to him; says it will be absorbed and produce blood poisoning, and if not that, it will interfere mechanically with his digestion and assimilation of food. Muscular pains (cramps) in calves of legs and muscles of shoulders are increasing, both in frequency of recurrence and severity; they are almost unbearable. Says throbbing pain in head begins in nape of his neck and occiput and gradually extends upward and forward until it reaches his eyes.

Dysphagia very slight, if any, though deglutition is slower than normal, and is accompanied by, or rather ends with a "click" or "cluck;" doubtless this results from a want of nervous supply to contract muscles of throat and pharnyx, they not acting with sufficient rapidity and precision to prevent air being swallowed with bolus of food or fluid draughts.

Twenty-five or thirty years ago patient was thrown from a buggy, from which accident he received injury to his sacrum; resulting from this injury were several osseous protuberances upon posterior surface of sacrum; now lying upon his back, all the weight of his body is brought upon these bony projections, which long continued pressure has caused to become "nervous centers" as he expresses it, from which radiate all sorts of disagreeable and painful sensations. Pressure on elbows or tuber ischii when sitting, if long continued, cause these points to become "nervous centers" also.

Handwriting, one month ago pretty fair, but writes slowly.

Several weeks since, his family tell me, he slept most of the time; if he remained quiet, either sitting upon a chair or reclining on sofa, he would soon drop to sleep. The patient attributed his somnolency to the fact that bright rays of sun, or gas light, were disagreeable and painful to his eyes and he, therefore, sought a dark room for relief, and not being diverted he would naturally fall asleep.

These muscular pains which I have before described, he acknowledges to be at times of nervous origin, *i. e.*, his mind being centered upon his own condition, his inability to move quickly and with accuracy his extremities, he changes the position more especially of his arms every few moments.

He frequently complains of complete inability to move either his body or extremities, when he compares himself to a "marble man;" this inability lasts for varying periods of time; on one occasion, when he was lying in bed, in a fit of desperation (having had his mind riveted upon this temporary but complete state of general paralysis of motion) he suddenly and violently flexed his right arm, throwing it up to the top of his head, from a position across his abdomen, from which latter position he was totally unable to move it for twenty or thirty minutes; then he gradually reassumed control over himself, but all of his muscles acting with great tremulousness, slowness and uncertainty. Suffers from flushes of heat of face and head which he says are as hot as "Tophet." His taste for food is good, but he eats less than system requires, either from fear of overloading his stomach (which, in his case, causes many disagreeable sensations) or what he eats will not be assimilated. As a consequence of this he has gradually but very perceptibly emaciated. His sufferings have been great, and he has often asked me to give him something (chloroform among other agents) that would end his existence, or "Doctor, please get a club and knock me in the head."

Muscular tremor has been marked, almost from the beginning of his sickness. When he desires to sit down on his chair or bed, he can not "face about" as one in health can, but does so by "rounding to," which he accomplishes by

making many short steps, and finally after these slow and wearying movements, *falls* rather than *sits* down.

The irritation of the tissue of his lower brain, (the cerebrum seems not to be at all involved in this pathological change—all manifestations exhibiting themselves in symptoms pointing to the lower brain or those parts of the nervous system which preside over animal life) a symptom of which (among others) is the paroxysmal contractions of the tendons of toes, varies in degree as well as duration; the removal of his bed clothes, thus causing a transition from a warm to a cool temperature, at once brings on a paroxysm. When this element of *irritation* is marked, he complains more of the soreness over a greater or less area of his muscular system, as also of increased hyperæsthesia of general surface of skin.

He is seemingly losing the natural acuteness of sensation in the rectum, accumulation and impaction of fæcal matter not producing the feeling of distension and uneasiness which in health it did; and he has been for some months past dependent upon enemata to assist him to evacuate his bowels, having had one voluntary discharge during the aforementioned time, and that caused by slight attack of diarrhœa, consequent upon an indigestion; and for some weeks preceding dissolution the accumulation in rectum had to be removed mechanically.

December 20.—At this date a new feature exhibited itself, viz., to use his own expression, "vacuity of thought," or want of ideas, and of ability to grasp, and after grasping mentally, want of the power to hold a thought, idea, or mental impression. Desirous of knowing if there is not some "short road to dissolution; life is a burden;" put this question to me: "Doctor, you say my pulse is remarkably full and regular considering my sufferings, my digestive powers are fair; answer me frankly, how many months of life are left in me?" This vacuity of thought increased rapidly, and he for weeks has been searching through all the "crooks and crannies" of his brain shelves to discover some particular question he wanted to propound to me, and of which he never was able to possess himself. He promises he will think of this question, and will recollect and mention it to me the next time I call.

January 11.—Hands and feet (more marked in latter) very much swollen (œdematous) of mornings. Complains of great pain in ends of fingers and toes.

February 10.—Power to grasp ideas as well as memory for ideas manifestly decreased, and is very perceptible to the patient, to which condition he says he prefers death. His physical exhaustion is peculiar in this: He is not only weak from want of muscular strength, but behind this is a lack of brain or nerve force to cause muscular action, which double weakness, so to speak, causes him such a great degree of suffering, he often remarks, "no one can appreciate what my sufferings are, not even my doctor." Œdema of hands and feet increasing, and it is not lessened by absorption at night, when he is lying down, as it was formerly.

April 20.—Progress of case is about as above detailed, except patient often says to me: "Doctor, I can't," and will then stop. I will suggest, "can't do what, sir." He tells me, "I say a thousand times a day 'I can't,' but what it is 'I can't' I do not know." But he finally told me after attempting to do so for weeks, it was something connected with his physical well-being, but *what* it was he could not say. Has often remarked as I entered the door of his room: "Doctor, when you step into my room, you seem to chase away *that something* I desired to tell you, and I can not for the life of me think what it is. I forget every thing I wish to ask you by the time you step from one facing of the door to the other." I have requested him to tell one of his attendants during the intervals between my calls what that something is, but they tell me he has never been able to tell them, but merely repeats, "I can't, well I don't know what it is 'I can't.'"

The memory for occurrences dating back forty years even, is wonderful. He can relate with perfect ease, and in a continuous flow of choicest language, events in his travels or incidents of his early life, or whole pages of Pope; but when he attempts to tell me what it is "I can't," memory for that particular something seems entirely gone. During the last few weeks, his *hesitancy* in speech is *very much less marked.*

Appetite he pronounces to be morbid. He has just recovered from a pretty severe attack of facial erysipelas, which attack indirectly seemed to be of service to him, in diverting his mind and attention from his brain trouble to the local erysipelas. Patient's mind is full of regrets, and he seems to be continually engaged in traveling around a large circle, and bringing seriatim in array, his vast army of regrets; first the captains (or larger ones), then the rank and file (or smaller ones) of all the "might have beens." Having finished the task of reviewing all of them to the very least, he then commences anew his irresistible cycle.

May 25.—Patient now complains of vagaries, such as the following: Says he must certainly have—for he needs them—three eyes, as his left eye pains him, and as involuntary closure of its lid occurs, he needs a third eye, one of which must be in his forehead, midway between the two he has always had; or another, being confined from great weakness to his bed, necessitating the use of an urinal, he says the vagary often possesses him that he has use for two urinals; or again, when he experiences bearing down pains from accumulated fæces in his rectum, he says he must have two openings to his bowel.

One very remarkable feature of this case is, the patient's memory for his necessities is very defective, and he often exclaims: "I want, I want, I want—well, I don't know what I want; what is it, Doctor, I want? do tell me!" and the next moment he will repeat from memory such passages as the following, which lines he saw in a London counting-room forty years ago, over some prominent business man's desk, repeating it several times as I wrote it down, and then hearing me read it to him, and stating I had written them correctly.

"Time is one of the most precious talents which its Great Author has committed to our care. So precious is it He never affords us more than one instant at a time, and always withdraws it before He entrusteth another; once withdrawn 'tis never again re-bestowed. A moment misimproved or misspent is lost forever, and can never be recovered from the great depths of eternity."

Dysphagia, at this date, has increased; the patient has to concentrate his mind upon the act of swallowing, or he will, if diverted in the least, be so sure to get some of any fluid he may attempt to drink in his windpipe, which in his exhausted condition almost strangles him.

Emaciation is very marked, and patient complains greatly of that peculiar feeling of weakness which is caused by want of nerve force, being added to want of muscular power. He says "he is too weak to die."

June 15.—My patient is at this date nothing but a skeleton; he still fights a good fight, and forces down a little fluid food two or three times daily, but he is still going from bad to worse, and I can not conceive how he can hold out much longer.

Two days prior to dissolution—which occurred June 27, 1878, at 2:15 P. M.—he lost his power of speech, and has been breathing very laboriously for these two days, and finally,

> "Till like a clock, tired of beating time,
> The weary wheels of life stood still."

My brave old patient, dying without a struggle.

Non contractility of pupils, 24 hours before death; respiration 28 to 36 per minute, 36 hours before death; pulse 132 to 136 per minute, 24 hours before death; complete paralysis of right leg and arm and almost complete paralysis of left arm, 24 hours before death; conjunctiva insensible to touch of the finger, 24 hours before dissolution. Treatment in this case, was on general principles supportive, with a view of building up general system, phosphate of lime, soda and potash, with iron as nerve food; cod liver oil, extract of malt, &c., electricity, phosphide of zinc and nux-vomica; wines and the best of animal food. As sedatives, tinct. cannabis indica, potass. bromide and chloral hydrate when sufferings became unbearable. I regret exceedingly I was not allowed a post mortem.

During the discussion by the members of the Medico-Chirurgical Society of the diagnosis of this case, after having heard the above notes read, some of the members sprung the question, was or was not the injury, received by patient, when

thrown from his buggy twenty-five or thirty years ago, of the sacrum, the starting point of this degenerative action, and this extending by continuity of tissue up the spinal cord, and finally involving the structures of the "lower" brain? I took the ground of its being improbable (not impossible) for we did not have first symptoms in muscular system in those parts supplied by nerves of lower part of spinal cord, and then passing *pari passu*, up the cord to those spinal nerves supplying upper extremity; but we first had "paresis" of left upper extremity, then "thickness of speech," and succeeding this latter symptom, we had paresis of the left lower extremity.

ART. II.—*Regimen in Pregnancy.* By C. E. PAGE, M. D., Biddeford, Me.

It has been truly said that "In the physical world there is no forgiveness of sin." Eternal punishment is by no means implied by this, except so far as relates to eternal sin. It seems to me the grossest stupidity to violate the natural laws, and when suffering the legitimate consequence—disease—attempt to throw the blame on mother Eve, or original sin, and quote the old adage, "In pain shalt thou conceive and bring forth thy young."

While it is to be hoped that the profession generally are sufficiently familiar with the laws of health to require no special instruction as to the proper regimen in pregnancy, and that a large proportion of them could intelligently advise women at this important period, if called upon to do so (unfortunately in most cases the physician is called only at the last moment, and has to take the case as he finds it), yet it is nevertheless a fact that there are many practitioners who have never been able to carry their own wives through the term without more or less annoyance or distress from the traditional nausea, morning sickness, headache, morbid appetite, "longings," loss of appetite, constipation, etc., etc.—symptoms of disease so common at such time that they have come to be generally regarded as necessarily associated with the

function of reproduction. And yet so needless are these troubles, and so simple are the ready means of preventing them, that any intelligent, conscientious woman may, if her general health be fair, escape them altogether, and in any case mitigate evils that result, not from yielding obedience to the command, "Be ye fruitful and multiply," but from disobedience to this and to other laws no less God-given. The woman who intelligently yields a cheerful obedience to the natural laws would no more be subject to the above-named disturbances than to having twelve children at one birth. If, however, she lives in badly-ventilated apartments, takes little or no exercise, bathes seldom, shackles her body with corsets, eats without regard to the requirements of the system, and consequently is nervous, irritable and sleepless, the other divertisements may naturally be expected to follow. In discussing the food question it may be said that, in spite of disobedience to the other requirements of the system—while, even then, a properly-regulated diet will do wonders, it can not do every thing any more than the woman herself can attend properly to her own household duties, manage her husband's affairs in town, and mind the business of all her neighbors besides. The stomach can not do the work of the lungs, nor indeed well perform its own, unless the lungs have constant access to a pure atmosphere—the only source of the supply of oxygen, without which even the best of food can not be converted into good blood.

The average patient is seldom curious to know even the name of the drugs the doctor prescribes, much less the reason for the particular combination—swallowing the dose, be it ever so bitter with a sweet faith charming to behold. It is not the chief purpose of this paper to explaim the physiological reason why there must be a just proportion of food, oxygen, exercise and sleep, and due and proper regard for skin, cleanliness and clothing; the design is simply to furnish the plain facts as to what the "just proportion" and "proper regard" implies.

What do we eat for? To repair the waste resulting from the exercise of the muscles. Every wink of the eye, every

pulsation of the heart, every expansion of the lungs, every bending of the elbow, every step, every thought, is at the expense of waste; that is to say, with every effort, whether voluntary or involuntary, minute particles of the body are consumed, or rather changed from an integral part of the frame to waste matters which are whirled away by the vital canal system, the blood, and finally thrown off through the skin, lungs, and kidneys. The food supplies the material to repair this waste, and the organs of digestion perform the labor of converting the food into blood.

Food is to the body what fuel is to the steam-engine, furnishing power. Even as we can not obtain much power from the steam-engine without plenty of fuel, so we can not have a strong and healthy body unless it has plenty of fuel. But on the other hand, as too much fuel will choke up the flues and fire-box of the one, and by impeding combustion diminish or destroy its power, so, too, and in a double sense, *too much* food, by impeding digestion, will sooner or later clog up the system and reduce or destroy the power of the living machine.

The capacity of the alimentary apparatus is such that the stomach can contain and dissolve a sufficient quantity of food, if taken at proper intervals, to support the human machine in its varied involuntary labor, the vital processes necessary to life, as digestion, circulation, respiration, secretion, calorification, which are carried on independently of the will; and also the labor or exercise performed by calling into action an additional system of agencies, those of the voluntary muscles, to maintain which in a state of activity, involves an extra requisition upon the various involuntary organs.

"As the materials of the body are derived from the substance of the food, so all vital power is derived from the force stored up in the food. Organic matter is in a state of molecular tension, and when decomposed, these tensions are given out in the form of physical forces. Food is organic matter, suited to undergo assimilation, and then to give out its molecular tensions in various forms, such as animal heat, muscular power. It follows that in work or exercise, the voluntary

muscular system draws upon the involuntary functions for its supply of energy; and hence, in proportion to the force expended, is the general exaltation of the vital processes. Bodily exertion thus increases atomic changes, and quickens that metamorphosis of tissue in which health essentially consists. Exercise is at the expense of waste; waste involves repair, and these augmented processes call into higher action the whole apparatus of supply and excretion. Habitual exercise is thus the cause and condition of that vital renovation of parts which is the source and measure of constitutional vigor." (Youmans.)

We eat for warmth. The body is maintained at a temperature of about 98° F., the same in winter as in summer, by the blood which circulates to every pin-point of the body, and constitutes a "hot-water apparatus" as far superior to that employed for heating the rooms of a first-class hotel, as the latter is superior to the smoky fire of an Indian wigwam.

We eat for comfort. There should be felt a sense of perfect *ease*, complete bodily comfort, invariably succeeding the pleasures of the table, and herein lies the one grand secret of eating for health. The opposite of ease is dis-ease. By "ease" we do not mean a stupid, easy feeling, inclining to sleep after meals, like a hog whose sole occupation is to roll on fat, but a wide-a-wake, glorious, good, easy feeling, only to be experienced by the individual who eats in proportion to the requirements of the system, and not to the capacity of the stomach for distention. Every mouthful taken in excess of the needs of the organism, we eat for disease.

In addition to the requirements occasioned by the involuntary exercise referred to, of the heart, lungs, etc., three items gauge the demands of the system for nutriment, and tax the digestive apparatus to its utmost: (*a.*) Hard labor, mental or physical, or both, (*b.*) during many hours each day, and (*c.*) carried on out of doors in extreme cold weather. We have here, then, the conditions upon which a human being, in health, may eat the maximum quantity of hearty food that his stomach can comfortably contain, with the assurance that

it will be thoroughly digested and assimilated, viz., many hours of arduous labor in an exceedingly cold atmosphere.*

It is found, in practice, that where food is habitually taken at intervals of less than five or six hours, there necessarily ensues, sooner or later, disturbance and functional disease of the organs of digestion; hence their capacity in this regard is limited to three meals a day. Blind as the engineer may be to the principle as applied to the living machine—the sensual appetite preventing the continuous exercise of the judgment—he has early learned that even when the maximum power of the engine is desired, cramming the fire-box is not the thing to do. Lack of cumbustion will reduce the power; or if there be combustion of the whole body of coals, the excessive heat burns out the fire-box, and excessive power racks out the machinery. The same danger attends the living machine, even when working to its full capacity. Distension of the stomach prevents the free manipulation by which the juices are thoroughly mixed with the food; and, moreover, no doubt prevents the plentiful secretion of the gastric juice; or, if the digestion be strong, the excess is sure to promote disease.

If, then, there be danger from excess when the body is working at its full capacity, and exercising every means to utilize the food, what might we not expect to result from habitually filling the stomach to distension with hearty, concentrated food—meats, gravies, and the like, and indigestible pastry, etc.—when the muscles are performing light work in a summer temperature, as is the case with the sedentary who occupy warm rooms the year round? We know what does result from this almost universal custom—*nearly all the ills that afflict the human frame.* We pass the picket-guard, deaf, dumb, and blind to its gentle admonitions; uneasiness and pressure in the region of the stomach; acidity, flatulence,

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*During convalescence from sickness, when the body is emaciated, the reasons are obvious why a larger proportion of food may be taken with advantage, notwithstanding there may be for a time little voluntary exercise (it being borne in mind, also, that the same amount of exertion may be necessary to lift an arm, that would be required, in health, to handle a fifteen-pound dumb-bell).

"'heart-burn," slight head-ache, nausea, lethargy, heaviness, tendency to sleep, and the like, and make a stubborn fight when the next line is encountered. Constipation, loss of appetite (never hungry), morbid appetite (always hungry; always eating, yet never nourished), fitful appetite, emaciation, nervousness, until at last we are almost surely brought face to face with the main line, and a life or death struggle with Nature, whose kindly warnings have thus far been unheeded.

In examining the relation between diet and exercise, we perceive the relation of alimentation to the health of the woman in pregnancy, when living a sedentary life, or, at best, with diminished exercise within doors.*

"If the food is not absorbed from the digestive apparatus into the system, it rapidly undergoes chemical decomposition in the alimentary canal, and often putrifies. Large quantities of gas are thus generated, which give rise to flatulence and colicky pains, dyspepsia, constipation, and intestinal irritation, causing diarrhœa, are produced. If digestion be strong and its products are absorbed, an excess of nutriment is thrown into the blood and the circulation overloaded. If food is not expended in force the natural alternative is its accumulation in the system, producing plethora and abnormal increase of tissue. This is accompanied by congestion of important organs, mal-assimilation of nutritive material, and increased proneness to derangement and diseased action. The excretory processes are likewise certain to be disturbed, which often leads to the retention of waste products, with perversion and poisoning of the blood and a train of evil consequences."

The evil effects of deficient diet are too well known to require detail here. "Habitual insufficiency of food lowers

*False delicacy, injudiciously encouraged by friends, too often prevents abundant exercise in the open air. Is it not a strange comment upon our civilization, that while men, women, and children may watch with equal interest and delight, the swelling of the lily and the birth of the flower, the growth and birth of a human being—a creature in God's own image—is considered a vulgar and shameful thing?

the vital powers and depresses the functions. There is loss of mental vigor and muscular energy, and a tendency to digestive disturbance, anæmia, and the development of those maladies which result from debility and under-vitalized conditions. The resistance of the system to the numerous causes of disease is diminished; typhus and typhoid fevers and neuralgia are peculiar diseases of the poorly nourished." When, however, we reflect, that in this age of plenty—when from one source or another, even the wretched poor are, in general, abundantly supplied—the cause of the lack of nourishment so plainly shown in the countenance of a large proportion of the people, high and low, is to be sought primarily in excess of food—habitual over-indulgence having led to such derangement of the alimentary apparatus that it is no longer equal to the task of digesting and assimilating a normal amount—we are led to inquire whether a wise spirit of charity would not indicate bundles of sanitary tracts often, instead of, or in conjuction with, baskets of provision for the poor? Whether the symptoms be loss of appetite, fitful appetite, or a never-satisfied craving that leads to the consumption of enormous quantities of food, the result is the same—the body suffers for want of nourishment. To the first two classes, the advice should be to stop eating, or eat less, until plain food, in sufficient quantity, can be taken with a sharp relish at every regular meal. To those of the morbid appetite, I would say, "give the over-taxed digestive organs sufficient rest to enable them to so dispose of the food taken, that the body, now starving on six enormous meals, shall be abundantly nourished on three moderate meals."

The intelligent physician will distinguish between the rare instances of hypocondriacal refusal of food and the almost universal cause of poor appetite which I have endeavored to expose. In the instances coming under the former head—where it is evident or proven that food, if taken, will be digested, the treatment is obvious—moral suasion, or, in obstinate cases, compulsion.

The popular fallacy indicated by the phrase "eating for two," has been responsible for more mischief, more down-

right harm to mothers and their offspring than almost any of the numerous superstitions connected with this subject. The mother is impressed with the importance of eating largely, and upon this plea, while the appetite endures, she swallows enough extra food to nourish a growth many times the weight of the fœtus, even though the latter should prove a resulting monstrosity of twelve, fifteen, or twenty pounds. Unless nature kindly takes away the appetite, and remains proof against the unwise attempts to concoct fancy dishes to tempt the palate, the excess in diet is almost certain to result in a plethoric condition, indicated by abnormal increase of tissue, red cheeks, etc., increasing the dangers of congestion after the birth of the child, and rendering likely a hard sickness and a "slow getting up," all of which is, of course, unfavorable for the new-born.

Although by no means advocating the doctrine of vegetarianism, on the contrary believing that there are few indeed, of all the food articles that grow or are sold in the shops that are not wholesome, taken under proper conditions, yet it seems to me certain that for the valetudinarian, the sedentary, and the woman (especially during the period of gestation) living chiefly within doors, and taking little exercise, there should be a large proportion of vegetable food, and that there are certain articles of diet, some of which are, under other circumstances, the most wholesome and, indeed, necessary—which should be discarded, viz., meat, rich gravies, heavy sauces, strong coffee, and tea.

Under the influence of vigorous and long-continued exercise in a northern climate, "many substances which nature never intended for our food, become wholesome, or at least digestible, for a Kamtchatka fisherman can swallow as his daily ration a dose of blubber and brandy that would kill seven Hindoos. The pork-steaks and bitters that feed the fire of life in December, smother it in August (or within doors at any season) like so much incombustible rubbish, or evolve fumes that obscure its brightness, till we yearn for the equinoctial gale like a becalmed mariner in a fog, or take refuge from hypochondria in the summerless heights of a mountain

region; and if starvation were not so often superadded to the cold and the darkness of the season of short days and long nights, it would be very doubtful if the bitterest winter sorrows of the children of nature could compare with the self-inflicted summer martyrdom of a European or North-American dyspeptic. For languor, dull headaches, nausea, and troubled dreams, though singly and momentarily no very serious evils, can aggregate in a sum of misery that has induced all northern nations to make a high temperature the chief characteristic of the pit of torment.

"The antidotal resources of nature counteract the evil for awhile; diarrhoea, retching and intermittent fevers, discover her efforts to secrete an indigestible substance; the suicidal diet is modified, in quantity at least, by nausea and loss of appetite, and the periodical north winds that reduce the summer temperature of our southern states by twenty or thirty degress may help to postpone the crisis for weeks and months. But if that palliative fails, and the devotee of established custom pursues his course with intrepid fanaticism, the barriers of life yield at last, and nature ends an evil which she can not cure. The direct cause of yellow fever is the inability of the vital powers to withstand the double influence of moist heat from within and without." *

There are articles which can not be taken to advantage under any circumstances, even if not always pernicious, which should be strictly forbidden under the special conditions here referred to, viz., heavy bread, sodden potatoes (from improper cooking), rich pastry and cake, hot spices, liquors and stimulants generally.

Regarding the not uncommon practice of prescribing stimulants in cases of consumption or any condition of failing strength, the verdict of science is that alcohol is not a food. "It stimulates but it gives no strength to muscle or nerve, and it really gives no vital heat, but tends to deprive the heart of heat." If science does not say that it is a poison it is scientifically certain that it is destructive. In one of the recent articles in the *Contemporary Review* on the alcohol

*F. L. Oswald, M. D., Popular Science Monthly, Dec., 1878.

question, Dr. Brunton, an eminent physician, says that "the effect of alcohol upon the nervous system may be described as one of progressive paralysis." A person may become fat under the influence of alcohol, but he becomes so because the system does not throw off the refuse matter which it is necessary to get rid of. "The fattening is caused by the arrest of a vital process necessary to health; it betokens disease rather than health; and after awhile perhaps the person dies of a fatty heart, and the physicians call it heart disease." *

As for stimulants in general, I am disposed to approve the advice of a celebrated physician, who, when asked by a lady "what she should do when she felt the need of a stimulant," replied, "Lie down like any other animal."

I have sufficiently indicated the necessary difference between the winter and summer diet. It is virtually the same as we adopt in the regulation of our stoves and furnaces. What would be thought of the housekeeper who would keep a glowing fire constantly in the sitting room and chambers, burning as much fuel in July as in January? It is even more foolish to thus abuse our bodies. In summer eat moderately of farinaceous dishes, sweet milk and fruit. It has been demonstrated beyond the possibility of a doubt that such food is sufficient to maintain a hard working man in perfect health. If the heat is still oppressive, take less and less, until you find comfort—freedom from heat, lethargy, disinclination for either work or recreation, and all uncomfortable sensations of that nature. Reduce the number of meals to two if necessary, taking cooling and non-stimulating drinks in place of the middle meal, and take similar drinks throughout the day as thirst demands them, *not* for the mere pleasure of drinking. Smoking-hot dishes and such spices as pepper, mustard, onions and ginger increase the temperature of the blood, as does also hot coffee and tea in their passage through the alimentary canal.

Strong mental or physical effort should be avoided immediately prior to or directly after a full meal. In the first instance the excited brain or muscles do not immediately yield up to

*B. W. Richardson, M. D., F. R. C. P., of England.

the stomach, and in the last will draw off from that organ the blood so essential to digestion, and thus much mischief and often serious injury is done.

The manner of eating has much to do with the digestion, and consequently with the nourishment of the body. The individual who washes his food down with drink, mouthful by mouthful, or who swallows it before thoroughly masticated, suffers from several considerations: (a) The food enters the stomach imperfectly and insufficiently insalivated, and in too coarse divisions to be speedily dissolved by the gastric juice, thus favoring *fermentation* before the preserving qualities of the gastric juice can be exercised. (b) The food goes to the stomach faster than that organ can handle it; there should be time for each mouthful to become well mixed with the gastric juice before another installment is sent down. (c) Rapid eating favors over eating; when the food is taken deliberately and thoroughly chewed, and thereby thoroughly and sufficiently insalivated, it goes to the stomach in the right order and condition to be mixed and acted upon by the gastric juice, and the natural appetite is satisfied with a much less quantity and becomes for that reason a safer guide, than where the food is "bolted." In the latter case it is not only difficult or impossible for the gastric juice to preserve and dissolve it (as large lumps of ice melt more slowly in water than if powdered) but a greater quantity can be taken by reason of its condensed shape, and, too, the sensation of hunger is not appeased until a normal amount of food, *in a fine state*, is present in the stomach, or until that organ is too much distended to admit of more. A rapid eater, when interrupted in the middle of his repast and remaining away from the table a few minutes, finds on his return that his "dinner has been spoiled" by the interruption, when, in fact, the food already taken has had time to become dissolved and its bulk increased in the stomach and proves sufficient to answer the demands of the system. His absence, therefore, has really prevented his dinner from being "spoiled."

The main purpose of this paper being to discuss the question of diet, but little space can be devoted to the considera-

tion of the other requirements of health—air, skin-cleanliness, clothing, and sleep. Yet so intimately connected and of such vital importance are these, that I can not forbear brief comment.

Pure air is as essential to health as good food. Without oxygen the body dies in a few minutes, while entirely without ingested food, life will continue many days; and with plenty of pure air and water, the body will continue to live for several weeks or until the flesh is almost entirely consumed. Imperative as is this need of oxygen, the just proportion of which can only be obtained by breathing pure air twenty-four hour hours each day, and in spite of the fact that it is just "as free as air," yet ninety-nine in the hundred dwellings are so devoid of ventilation, that except in summer, their occupants breathe a highly vitiated atmosphere day and night; and the ingenuity is taxed to make the "sick-room" the worst of all by sealed doors and windows. The "night-air" bugbear is still far from being banished from otherwise well-regulated minds. People seem blind to the fact that the Creator has seen fit to give us no other kind between sunset and sunrise, and that the portion we shut up in our dwellings becomes less pure than the main body without, with every breath we draw. The change then, should continue throughout the night, when, during sleep, we are "storing up oxygen for use throughout the day," when there may be a demand beyond the current capacity of the lungs. Open windows are objectionable on account of direct draughts, and because they are seldom resorted to until more or less injury has been sustained from vitiated air.

The true theory of ventilation is to obtain a perpetual and sufficient change of air without sensible draught. The following simple plan, as I have proved by years of experience, perfectly fulfills these requirements, and leaves nothing to be desired. The *Scientific American* endorses the plan, and places it above many, in fact, most of the elaborate and expensive devices. A three-inch strip placed beneath the lower sash of each window has the effect to "miss-match" the sashes, causing them to overlap each other in the middle.

The stream of air thus admitted is thrown directly upwards, and slowly mixes with the heated air in the upper part of the room. As several windows in each room are thus provided, the vitiated air is constantly passing out at one or another of the ventilators. The strip being perfectly fitted or listed, no air can enter at the sill, and all can be so nicely finished as in no manner to mar the appearance of the most elegant drawing-room. A dwelling thus ventilated will never smell "close" to the most sensitive nose upon re-entering, even after a prolonged stay in the open air—a test that would condemn as unfit for occupancy, ninety in the hundred sitting- and sleeping-rooms, as well as churches, halls, etc., the world over. The purity of the air is by no means measured by the temperature. Cold air is often very impure by reason of stagnation (as stagnant water), or the exhalations from the lungs, etc., while on the other hand, the temperature may be maintained at 70° F., or upwards, without lowering its quality, if a sufficient and perpetual change is going on between the outdoor and indoor air.

The object of clothing is to prevent the too rapid escape of the bodily warmth, to protect us from the extreme cold in winter, and in summer sufficiently to guard against sudden changes of temperature. Both requirements are better met when woolen flannel is worn next the skin the year round. This is objected to by some in summer on the score of heat. In order to intelligently consider this fancied objection, for it is nothing more, it is necessary to bear in mind two facts, viz.: Whatever regimen promotes health, will keep us warm in winter and cool in summer; and that bodily comfort during the heated term depends less upon what we put on than what we put in. We see ladies dressed in the simplest, lightest, and fewest layers of linen and calico, wilting with the heat, while men in winter garb, flannels beneath heavy woolen garments, hunt or fish almost unmindful of the weather. It is a matter of physical condition, and this, with most men and women, is a matter almost entirely within their own control.

Warmth is better secured by several layers of light-weight goods than by less layers of heavy, that is, the proper degree

of warmth will be thus obtained with less total weight of clothing, and therefore greater comfort. Heavy garments are often burdensome, especially to the delicate who can not support clothes enough to keep them warm. The garments should be suspended from the shoulders, and loose enough to in no way constrain the easy motion of the body and limbs, impede the free circulation of the blood in the capillary vessels, or prevent the proper ventilation of the skin. Corsets, snug waists, garments confined at the waist, and tight boots, are in the highest degree injurious and promotive of the worst forms of disease. These facts have been continually placed before the people, and those who still retain these instruments of self-murder, deserve little sympathy for the miserable weaknesses and fatal diseases that result from their use.

Skin cleanliness requires a daily bath, taken under perfectly *comfortable* conditions; the opposite of comfort and ease is *disease*. For many reasons the bath is best taken on rising from bed, but is allowable at any time, except within two hours after eating. Five or six minutes exposure in a warm, well-ventilated room, with a coarse towel, wrung slightly from cool or tepid water, applied to the entire surface of the body, and followed by a brisk rubbing with a dry towel until a warm glow is felt, would fulfill the conditions as to comfort and cleanliness. The delicate should bathe a portion of the body at a time—the rest remaining covered—where this precaution is needed to avoid chilliness. If the time usually devoted to the weekly soaking—made necessary by the six days' neglect—were thus divided among the seven mornings, the sensual gratification experienced would soon come to be regarded as equal to that afforded by the succeeding breakfast, and would greatly enhance the latter by reason of improved appetite.

Upon one other most vital point parents should be instructed and warned; not only of the immediate ill effects of excessive sexual indulgence during the period of gestation, but, also, the far-reaching and disastrous influence of such excitements during the fœtal life upon the offspring in after years. No force of language can over estimate the shame,

disgrace and unhappiness that might be saved, if parents would learn and religiously perform their duty in practicing the restriction that they hope and pray their children will, when grown, viz., confining those functions to the simple requirements of re-production. To the excesses of the marriage bed may be largely attributed the tendencies of our youth. The likelihood of their falling under the combined influence of temptation, from without and within, is too often the result of ungovernable passions, directly traceable to what, by the laws of *man*, are regarded as the legitimate pleasures of the married state. It should be borne in mind that the law of heredity, now beginning to be understood, in some quarters at least, applies no less to this than to other phases of breeding—the sensualist will beget a sensualist.

The advantages of sufficient sleep are well known to every physician, but it is not enough to tell the patient to take "all the sleep she can" (the usual formula). Sleep will not always follow the lying down; quantity may be a poor substitute for quality, and where there is excess of sleep, all the bad effects of inaction become developed. Sleep should be dreamless—no other affords perfect nervous repose. "In painful and harrassing dreams, the emotional perturbation continues, and the individual awakens exhausted rather than invigorated. It is probable that in such cases, when the mind is abandoned to fantasy, and the control of the judgment is lost, the wasteful activity of certain parts of the brain may exceed that of the waking state." (Youmans.) Dr. Rush has most truly said that "a dream is a transient paroxysm of delirium, and delirium a perpetual dream." Every observing physician must agree with Professor Youmans regarding the effects of insufficient sleep. "One of the most common is a degree of nervous irritability and peevishness, which even the happiest self-discipline can scarcely control. That buoyancy of feeling, that cheerful, hopeful, trustful temper" (so far-reaching in its effects upon the whole future welfare of the innocent human being soon to be ushered into the world), "which springs far more from organic conditions than from mature and definite convictions, gives way to a spirit of dis-

satisfaction and dejection, while the even demeanor, the measured activity, are replaced either by a lassitude that renders any exertion painful, or an impatience and restlessness not very conducive to happiness."

The amount of sleep necessary for the perfect renovation of the system will vary somewhat with the temperament. Seven hours will suffice for some—a few *perfect sleepers* will rise thoroughly restored with less—but eight is little enough, especially for the "nervous," and few would require more. It is better if this can be obtained by seven A. M., winter and summer.

It is essential for good sleeping that the bed clothing be sufficiently porus, and not too abundant to permit of the ready escape and removal of the air encompassing the body. Linen or cotton sheets, and outer spreads of close texture, interfere with this process, and tend to cause "uneasiness," chilliness, &c., because of insufficient ventilation of the body—the skin can not *breathe* freely—and to a person in perfectly normal health and thus sensitive to wrong conditions, the inconvenience would be unendurable. Quite often individuals sleeping on feather beds, their bodies encased in linen sheets, with three or four "comforters," or as many pairs of blankets and a linen spread over all, in a room at 60 F., complain of wakefulness, "chilliness," &c. The fault is not always lack of blood—although the blood necessarily suffers from such conditions—but lack of knowledge. With pure air in the room, and less covering of the right sort, they would sleep warmly and uninterruptedly all night. A good mattress, with woolen blankets, answers the demand perfectly, and what is not generally known—are more comfortable in summer as well as in winter—that is, a person would sleep "cooler" under a *light* woolen blanket, than under the common sheet during the hottest night.

The one grand, sure and safe sleeping potion is *right living*—obedience to the natural laws, including the cultivation of a contented spirit. Exciting topics, great mental efforts, and all disquieting influences should be avoided during the evening, and especially during the last hour before retiring.

To insure the best results, it is important to retire in good season, and as far as possible at about the same hour, and to form the habit of rising promptly on awakening in the morning. The system takes kindly to this habit, and sleep will continue uninterruptedly until nature is fully restored. With many the hour of waking will not vary many minutes for days together, and never, except when from some cause, more sleep has been rendered necessary.

These requirements, fairly met, will carry the female through the entire period in comfort; keep her "on her feet," and in a condition to enjoy all the rational pleasures of life up to the last hour, when, as the culmination of her happiness, "she shall rejoice that a man is born into the world."

ART. III.—*Tasteless Quinine.* From lecture of DOCTOR LARRABEE, Hospital College of Medicine, Louisville, Kentucky.

Previous to the discovery of the great French chemists, Pelletier and Caventau, sufferers from marsh miasm were contented to swallow an ounce or two of powdered calisaya bark at a dose, and blessed the day when generous John Talbot of England bought the secret and gave the Jesuits, *pulvis patris* to the world. For some time after the manufacture of quinia in the United States, this alkaloid was looked upon with distrust and sparingly prescribed. These were the days of the quassia cup, stout hearts, and strong stomachs, times in which a dose of physic meant business. It is quite safe to say that at the present time little less than a million ounces of quinine are consumed in one year in the United States and Territories. There would seem to be a profligacy in this statement, which is only appreciated by those who are familiar with the wonderful tolerance of the drug, established by residence in malarial districts of the South-west. Since the discovery of the first and king alkaloid, some four or five others have been brought to the favorable notice of practitioners, all of which possess the property of controlling dis-

eases dependent upon marsh miasm. Even the residuary matters, the refuse of the laboratory, so far from proving a waste, are highly esteemed for antiperiodic properties. As each new alkaloid has been sent out, it has shared the trials of the first, although at the present time it is rare to meet with physicians using only quinia salts in the cure of intermittents.

*I have elsewhere called attention to the fact that alkaloid principles, although representing the drug from which they are derived, do not possess all its curative properties. Nothing is more frequent in practice than to meet with chronic intermittents which resist quinine but yield at once to the amorphous product of Liebig and to the lesser alkaloids. The nauseous chinoidine has won a high repute in malarial districts, being preferred to the pure and isolated alkaloid.

Cinchonidia and its sulphate are universally liked, while the sulphate of the isomeric cinchonia is so irritant that emesis and gastritis often attend upon its administration. The abiding objecton to the salts of all the alkaloids of bark being their bitterness, which quite forbids their use in infancy and childhood; much pharmaceutical skill has been exhausted to render them acceptible. With few exceptions, the results have been attained partly, if not wholly, at the expense of tbe therapeutic properties derived from the drug, and tasteless quinine, *when rendered such by tannic acid*, may be denounced as *useless* quinine. The physiologico-chemical solution of medicines and their exact form of introduction into the circulation is by no means a matter of certainty. It is quite clear, however, that if the alkaloids are not rendered soluble in the gastric juice, the chances are largely against their introduction into the system.

Some time since, a package marked "cinchonia mixture" was placed in my hands from the old reliable house of Powers & Weightman, Philadelphia. The mixture consists of the alkaloid cinchonia mixed with sugar of milk and carbonate of an alkali (soda). The object of the latter being to render the alkaloid tasteless. (Quinia and cinchonia are alike taste-

*See Infantile Therapeutics.

less for some time owing to their insolubility in the saliva). The directions upon the package advise the use of acid drinks during the administration of the mixture, the object being to effect the solution of the mixture in the stomach. In conjunction with my colleagues, Professors Bolling, Wilson, and Bailey of the Hospital College, I commenced prescribing the cinchonia mixture in the children's clinic. Several children previously treated by quinia with temporary benefit, were restored to perfect health under its use, which result is probably largely due to the fact that it was retained without fighting down the dose as is often done with quinia in the nursery. I have found the mixture to be entirely satisfactory and sufficiently tasteless to suit the most fastidious, and when the directions which accompany the package are carried out, sufficiently powerful to meet all the indications desired from administration of quinine. In several instances I have observed a slight eruption upon the skin during the use of the cinchonia mixture. It is only necessary to note this as it not unfrequently attends upon the other alkaloids of Peruvian bark, and so far from being detrimental, is probably advantageous by stimulating the peripheral nerves. The acid drinks of lemon or cider-vinegar are also of benefit, besides their solvent power over the alkaloid. Few chill patients fail to give expression to the desire for acids, which appetite may be considered a call of nature for the preservation of the blood corpuscles so rapidly and effectually destroyed by the malarial poison. Professors Bolling, Bailey, Wilson, and Holloway have made more extensive use of the mixtures in their respective clinics with like favorable results.

Treatment of Whooping-cough by the Tincture of Myrrh.—According to Dr. Campardon, pertussis yields readily and easily to the tincture of myrrh. He gives fifteen drops in a tablespoonful of Vichy water every hour or every two hours. This treatment, however, must be combined with the appropriate treatment for the bronchitis or the pulmonary congestion.—*Lyons Medical.*

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—*Extracts from the Dedicatory Address of* DR. OLIVER WENDELL HOLMES, on the occasion of the opening of the new building of the Boston Medical Library Association.

What glorifies a town like a cathedral? What dignifies a province like a university? What illuminates a country like its scholarship, and what is the nest that hatches scholars but a library?

The physician, some may say, is a practical man, and has little use for all this book-learning. Every student has heard Sydenham's reply to Sir Richard Blackmore's question as to what books he should read—meaning medical books. "Read Don Quixote," was his famous answer. But Sydenham himself made medical books, and may be presumed to have thought *those* at least worth reading. Descartes was asked where was his library, and in reply held up the dissected body of an animal. But Descartes made books—great books, and a great many of them. A physician of common sense, without erudition, is better than a learned one without common sense, but the thorough master of his profession must have learning added to his natural gifts.

It is not necessary to maintain the direct practical utility of all kinds of learning. Our shelves contain many books which only a certain class of medical scholars will be likely to consult. There is a dead medical literature, and there is a live one. The dead is not all ancient—the live is not all modern. There is none, modern or ancient, which, if it has no living value for the student, will not teach him something by its autopsy. But it is with the live literature of his profession that the medical practitioner is first of all concerned.

Now there has come a great change in our time over the form in which living thought presents itself. The first printed books—the *incunabula*—were enclosed in boards of solid oak, with brazen clasps and corners; the boards by and by were

replaced by pasteboard, covered with calf or sheepskin; then cloth came in and took the place of leather; then the pasteboard was covered with paper instead of cloth; and at this day the quarterly, the monthly, the weekly periodical in its flimsy, unsupported dress of paper, and the daily journal, naked as it came from the womb of the press, hold the larger part of the fresh reading we live upon. We must have the latest thought in its latest expression; the page must be newly turned like the morning bannock; the pamphlet must be newly opened like the ante-prandial oyster.

Thus a library, to meet the need of our time, must take, and must spread out in a convenient form, a great array of periodicals. Our active practitioners read these by preference over almost every thing else. Our specialists, more particularly, depend on the month's product, on the yearly crop of new facts, new suggestions, new contrivances, as much as the farmer on the annual yield of his acres. One of the first wants, then, of the profession is supplied by our library in its great array of periodicals from many lands in many languages. Such a number of medical periodicals no private library would have room for, no private person would pay for, or flood his library with if they were sent him for nothing. These, I think, with the reports of medical societies and the papers contributed to them, will form the most attractive part of our accumulated medical treasures. They will be also one of our chief expenses, for these journals must be bound in volumes, and they require a great amount of shelf room; all this, in addition to the cost of subscription, for those which are not furnished us gratuitously.

It is true that the value of old scientific periodicals is, other things being equal, in the inverse ratio of their age, for the obvious reason that what is most valuable in the earlier volumes of a series is drained off into the standard works with which the intelligent practitioner is supposed to be familiar. But no extended record of facts grows too old to be useful, provided only that we have a ready and sure way of getting at the particular fact or facts we are in search of.

And this leads me to speak of what I conceive to be one

of the principal tasks to be performed by the present and the coming generation of scholars, not only in the medical, but in every department of knowledge. I mean the formation of *indexes*, and more especially of indexes to periodical literature.

This idea has long been working in the minds of scholars, and all who have had occasion to follow out any special subject. I have a right to speak of it, for I long ago attempted to supply the want of indexes in some small measure, for my own need. I had a very complete set of the *American Journal of the Medical Sciences*, an entire set of the *North American Review*, and many volumes of the reprints of the three leading British quarterlies. Of what use were they to me without general indexes? I looked them all through carefully and made classified lists of all the articles I thought I should most care to read. But they soon outgrew my lists. The *North American Review* kept filling up shelf after shelf, rich in articles which I often wanted to consult, but what a labor to find them, until the index of Mr. Cushing, published a few months since, made the contents of these hundred and twenty volumes as easily accessible as the words in a dictionary! * * * * * *

A great portion of the best writing and reading—literary, scientific, professional, miscellaneous—comes to us now, at stated intervals, in paper covers. The writer appears, as it were, in his shirt-sleeves. As soon as he has delivered his message the book-binder puts a coat on his back, and he joins the forlorn brotherhood of "back volumes," than which, so long as they are unindexed, nothing can be more exasperating. Who wants a lock without a key, a ship without a rudder, a binnacle without a compass, a check without a signature, a greenback without a goldback behind it?

I have referred chiefly to the medical journals, but I would include with these the reports of medical associations, and those separate publications which, coming in the form of pamphlets, heap themselves into chaotic piles and bundles, which are worse than useless, taking up a great deal of room, and frightening

every thing away but mice and mousing antiquarians, or possibly at long intervals some terebrating specialist.

Arranged, bound, indexed, all these at once become accessible and valuable. I will take the first instance which happens to suggest itself. How many who know all about osteoblasts and the experiments of Ollier, and all that has grown out of them, know where to go for a paper by the late Dr. A. L. Peirson, of Salem, published in the year 1840, under the modest title, "Remarks on Fractures?" And if any practitioner who has to deal with broken bones does *not* know that most excellent and practical essay, it is a great pity, for it answers very numerous questions which will be sure to suggest themselves to the surgeon and the patient, as no one of the recent treatises, on my shelves, at least, can do. * *

It is from the National Medical Library at Washington that we have the best promise and the largest expectations. That great and growing collection of fifty thousand volumes is under the eye and hand of a librarian who knows books, and how to manage them. For libraries are the standing armies of civilization, and an army is but a mob without a general who can organize and marshal it so as to make it effective. "The Specimen Fasciculus of a Catalogue of the National Library," prepared under the direction of Dr. Billings, the librarian, would have excited the admiration of Haller, the master scholar in medical science of the last century, or rather of the profession in all centuries, and if carried out as it begun, will be to the nineteenth all and more than all that the three Bibliothecæ—Anatomica, Chirurgica, and Medico-Practica—were to the eighteenth century. I can not forget the story that Agassiz was so fond of telling of the King of Prussia and Fichte. It was after the humiliation and spoliation of the kingdom by Napoleon that the monarch asked the philosopher what could be done to regain the lost position of the nation. "Found a great university, Sire," was the answer, and so it was that in the year 1810 the world-renowned University of Berlin came into being. I believe that *we* in this country can do better than found a national university, whose professors shall be nominated in caucuses,

go in and out, perhaps, like postmasters, with every change of administration, and deal with science in the face of their constituency as the courtier did with time when his sovereign asked him what o'clock it was: "Whatever hour your majesty pleases." But when we have a noble library like that at Washington, and a librarian of exceptional qualifications like the gentleman who now holds that office, I believe that a liberal appropriation by Congress to carry out a conscientious work for the advancement of sound knowledge and the bettering of human conditions, like this which Dr. Billings has so well begun, would redound greatly to the honor of the nation. It ought to be willing to be at some charge to make its treasures useful to its citizens, and, for its own sake, especially to that class which has charge of health public and private. This country abounds in what are called "self-made men," and is justly proud of many whom it thus designates. In one sense no man is self-made who breathes the air of a civilized community. In another sense every man who is any thing other than a phonograph on legs is self-made. But if we award his just praise to the man who has attained any kind of excellence without having had the same advantages as others whom, nevertheless, he has equaled or surpassed, let us not be betrayed into undervaluing the mechanic's careful training to his business—the thorough and laborious education of the scholar and the professional man.

Our American atmosphere is vocal with the flippant loquacity of half knowledge. We must accept whatever good can be got out of it, and keep it under as we do sorrel and mullein and witchgrass, by enriching the soil, and sowing good seed in plenty; by good teaching and good books, rather than by wasting our time in talking against it. Half knowledge dreads nothing but whole knowledge. * * *

A scholar should not be in a hurry to part with his books. They are probably more valuable to him than they can be to any other individual. What Swedenborg called "correspondence," has established itself between his intelligence and the volumes which wall him with their sacred enclosure. Napoleon said that his mind was as if furnished with draw-

ers—he drew out each as he wanted its contents, and closed it at will when done with them. The scholar's mind, to use a similar comparison, is furnished with shelves, like his library. Each book knows its place in the brain as well as against the wall or in the alcove. His consciousness is doubled by the books which encircle him, as the trees that surround a lake repeat themselves in its unruffled waters. Men talk of the nerve that runs to the pocket, but one who loves his books, and has lived long with them, has a nervous filament which runs from his sensorium to every one of them. Or, if I may still let my fancy draw its pictures, a scholar's library is to him what a temple is to the worshipper who frequents it. There is the altar sacred to his holiest experiences. There is the font where his new-born thought was baptized and first had a name in his consciousness. There is the monumental tablet of a dead belief, sacred still in the memory of what it was while yet alive. No visitor can read all this on the lettered backs of the books that have gathered around the scholar, but for him, from the Aldus on the lowest shelf to the Elzevir on the highest, every volume has a language which none but he can interpret. Be patient with the book-collector who loves his companions too well to let them go. Books are not buried with their owners, and the veriest book-miser that ever lived was probably doing far more for his successors than his more liberal neighbor who despised his learned or unlearned avarice. Let the fruit fall with the leaves still clinging round it. Who would have stripped Southey's walls of the books that filled them, when, his mind no longer capable of taking in their meaning, he would still pat and fondle them with the vague loving sense of what they had once been to him—to him, the great scholar, now like a little child among his playthings? * *

A library like ours must exercise the largest hospitality. A great many books may be found in every large collection which remind us of those apostolic looking old men who figure on the platform at our political and other assemblages. Some of them have spoken words of wisdom in their day, but they have ceased to be oracles; some of them never had any

particularly important message for humanity, but they add dignity to the meeting by their presence; they look wise, whether they are so or not, and no one grudges them their places of honor. Venerable figure-heads, what would our platforms be without you?

Just so with our libraries. Without their rows of folios in creamy vellum or showing their black backs with antique lettering of tarnished gold, our shelves would look as insufficient and unbalanced as a column without its base, as a statue without its pedestal. And do not think they are kept only to be spanked and dusted during that dreadful period when their owner is but too thankful to become an exile and a wanderer from the scene of single combats between dead authors and living housemaids. Men were not all cowards before Agamemnon, or all fools before the days of Virchow and Billroth. And apart from any practical use to be derived from the older medical authors, is there not a true pleasure in reading the accounts of great discoverers in their own words? I do not pretend to hoist up the Bibliothecæ Anatomica of Mangetus and spread it on my table every day. I do not get out my great Albinus before every lecture on the muscles, nor disturb the majestic repose of Vesalius every time I speak of the bones he has so admirably described and figured. But it does please me to read the first descriptions of parts to which the names of their discoverers or those who have first described them have become so joined that not even modern science can part them; to listen to the talk of my old volume as Willis describes his circle, and Fallopius his aqueduct, and Varolius his bridge, and Eustachius his tube, and Monro his foramen—all so well known to us in the human body; it does please me to know the very words in which Winslow described the opening which bears his name, and Glisson his capsule, and de Graaf his vesicle. I am not content until I know in what language Harvey announced his discovery of the circulation, and how Spigelius made the liver his perpetual memorial, and Malpighi found a monument more enduring than brass in the corpuscles of the spleen and the kidney. But after all, the readers who care most for the early records

of medical science and art are the specialists who are dividing up the practice of medicine and surgery as they were parcelled out, according to Herodotus, by the Egyptians. For them nothing is too old, nothing is too new, for to their books of all others is applicable the saying of D'Alembert, "that the author kills himself in lengthening out what the reader kills himself in trying to shorten."

There are practical books among these ancient volumes which can never grow old. Would you know how to recognize "male hysteria" and to treat it, take down your Sydenham; would you read the experience of a physician who was himself the subject of asthma, and who, notwithstanding that, in the words of Dr. Johnson, "panted on till ninety," you will find it in the venerable treatise of Sir John Floyer; would you listen to the story of the King's Evil cured by the royal touch, as told by a famous chirurgeon who fully believed in it, go to Wiseman; would you get at first hand the description of the spinal disease which long bore his name, do not be startled if I tell you to go to Pott—to Percival Pott, the great surgeon of the last century.

There comes a time for every book in a library when it is wanted by some body. It is but a few weeks since one of the most celebrated physicians in the country wrote to me from a great center of medical education to know if I had the works of Sanctorius, which he had tried in vain to find. I could have lent him the "Medicina Statica," with its frontispiece showing Sanctorius with his dinner on the table before him, in his balanced chair which sunk with him below the level of his banquet-board when he had swallowed a certain number of ounces—an early foreshadowing of Pettenkofer's chamber and quantitative physiology—but the "Opera Omnia" of Sanctorius I had never met with, and I fear he had to do without it.

I would extend the hospitality of these shelves to a class of works which we are in the habit of considering as being outside of the pale of medical science, properly so called, and sometimes of coupling with a disrespectful name. Such has always been my own practice. I have welcomed Culpeper

and Salmon to my bookcase as willingly as Dioscorides or Quincy, or Paris or Wood and Bache. I have found a place for St. John Long, and read the story of his trial for manslaughter with as much interest as the laurel-water case in which John Hunter figured as a witness. I would give Samuel Hahnemann a place by the side of Samuel Thompson. Am I not afraid that some student of imaginative turn and not provided with the needful cerebral strainers without which all the refuse of gimcrack intelligences gets into the mental drains and chokes them up—am I not afraid that some such student will get hold of the "Organon" or the "Maladies Chroniques," and be won over by their delusions, and so be lost to those that love him as a man of common sense, and a brother in their high calling? Not in the least. If he showed any symptoms of infection I would for once have recourse to the principle of *similia similibus*. To cure him of Hahnemann I would prescribe my favorite homœopathic antidote, Okie's Bonninghausen. If that failed, I would order Grauvogl as a heroic remedy, and if he survived that uncured, I would give him my blessing, if I thought him honest, and bid him depart in peace. For me he is no longer an individual. He belongs to a class of minds which we are bound to be patient with if their Maker sees fit to indulge them with existence. We must accept the conjuring ultra-ritualist, the dreamy second adventist, the erratic spiritualist, the fantastic homœopathist, as not unworthy of philosophic study; not more unworthy of it than the squarers of the circle and the inventors of perpetual motion, and other whimsical visionaries to whom De Morgan has devoted his most instructive and entertaining "Budget of Paradoxes." I hope, therefore, that our library will admit the works of the so-called Eclectics, of the Thompsonians, if any are in existence, of the Clairvoyants, if they have a literature, and especially of the Homœopathists. This country seems to be the place for such a collection, which will by and by be curious and of more value than at present, for Homœopathy seems to be following the pathological law of erysipelas, fading out where it originated as it spreads to new regions. At least I judge so by

the following translated extract from a criticism of an American work in the *Homœopatische Rundschau* of Leipzig, for October, 1878, which I find in the *Homœpathic Bulletin*, for the month of November just passed:

"While we feel proud of the spread and rise of Homœopathy across the ocean, and while the Homœopathic works reaching us from there, and published in a style such as is unknown in Germany, bear eloquent testimony to the eminent activity of our transatlantic colleagues, we are overcome by sorrowful regrets at the position Homœopathy occupies in Germany. Such a work [as the American one referred to] with us would be impossible; it would lack the necessary support."

By all means let our library secure a good representation of the literature of Homœopathy before it leaves us its "sorrowful regrets" and migrates with its sugar of milk pellets, which have taken the place of the old *pilulæ micæ panis*, to Alaska, to "Nova Zembla, or the Lord knows where." * *

Our undertaking, just completed—and just begun—has come at the right time, not a day too soon. Our practitioners need a library like this, for with all their skill and devotion, there is too little genuine erudition, such as a liberal profession ought to be able to claim for many of its members. In reading the recent obituary notices of the late Dr. Geddings, of South Carolina, I recalled what our lamented friend Dr. Cole used to tell me of his learning and accomplishments, and I could not help reflecting how few such medical scholars we had to show in Boston and New England. We must clear up this unilluminated atmosphere, and here—here is the true electric light which will irradiate its darkness.

The public will catch the rays reflected from the same source of light, and it needs instruction on the great subjects of health and disease—needs it sadly. It is preyed upon by every kind of imposition almost without hinderance. Its ignorance and prejudices react upon the profession to the great injury of both. The jealous feeling, for instance, with regard to such provisions for the study of anatomy as are sanctioned by the laws in this state and carried out with strict regard to

those laws, threaten the welfare, if not the existence of institutions for medical instruction wherever it is not held in check by enlightened intelligence. And on the other hand the profession has just been startled by a verdict against a physician, ruinous in its amount—enough to drive many a hard-working young practitioner out of house and home—a verdict which leads to the fear that suits for malpractice may take the place of the panel game and child-stealing as a means of extorting money. If the profession in this state, which claims a high standard of civilization, is to be crushed and ground beneath the upper millstone of the dearth of educational advantages, and the lower millstone of ruinous penalties for what the ignorant ignorantly shall decide to be ignorance, all I can say is, "God save the Common*h*ealth of Massachusetts!"

Once more, we can not fail to see that just as astrology has given place to astronomy, so theology, the science of Him whom by searching no man can find out, is fast being replaced by what we may not improperly call theonomy, or the science of the laws according to which the Creator acts. And since these laws find their fullest manifestations for us, at least, in rational human natures, the study of anthropology is largely replacing that of scholastic divinity. We must contemplate our Maker indirectly in human attributes as we talk of Him in human parts of speech. And this gives a sacredness to the study of man in his physical, mental, moral, social and religious nature which elevates the faithful student of anthropology to the dignity of a priesthood, and sheds a holy light on the recorded results of their labors, brought together as they are in such a collection as this which is now spread out before us.

Thus, then, our library is a temple as truly as the dome-crowned cathedral hallowed by the breath of prayer and praise, where the dead repose and the living worship. May it, with all its treasures, be consecrated like that to the glory of God, through the contributions it shall make to the advancement of sound knowledge, to the relief of human suffering, to the promotion of harmonious relations between the members of the two noble professions which deal with the diseases of the soul and with those of the body, and to the common cause

in which all good men are working, the furtherance of the well-being of their fellow creatures!

NOTE.—As an illustration of the statement in the last paragraph but one, I take the following notice from the *Boston Daily Advertiser* of December 4th, the day after the delivery of the address:

"Prince Lucien Bonaparte is now living in London, and is devoting himself to the work of collecting the creeds of all religions and sects, with a view to their classification—his object being simply scientific or anthropological."

Since delivering the address, also, I find a leading article in the *Cincinnati Lancet and Clinic* of November 30th, headed "Decadence of Homœopathy," abundantly illustrated by extracts from the *Homœopathic Times*, the leading American organ of that sect.

In the New York *Medical Record* of the same date, which I had not seen before the delivery of my address, is an account of the action of the Homœopathic Medical Society of Northern New York, in which Hahnemann's theory of "dynamization" is characterized in a formal resolve as "unworthy the confidence of the Homœopathic profession."

It will be a disappointment to the German Homœopathists to read in the *Homœopathic Times* such a statement as the following:

"Whatever the influences have been which have checked the outward development of Homœopathy, it is plainly evident that the Homœopathic school, as regards the number of its openly avowed representatives, has attained its majority, and has begun to decline both in this country and in England."

All which is an additional reason for making a collection of the incredibly curious literature of Homœopathy before that pseudological inanity has faded out like so many other delusions.

ART II.—*The Black Death.*

The plague panic seems to prevail in the infected provinces of Astrachan and Ienotaevsk; and though the reports of the Government authorities, whose interest it is to minimize

its effects, endeavor to make light of the epidemic, the accounts of its ravages which have got abroad are alarming enough. The Russian peasant, by reason of his foul and intemperate habits, would naturally fall an easy prey to the disease. Temperance and cleanliness have been shown at all times to be among the most useful prophylactics against the plague. Procopius, an eye-witness of the great plague which burst forth in Constantinople in the year A. D. 542, tell us that those who were abstemious in their mode of life for the most part escaped. The recovery of the Emperor Justinian, whose august person was not respected, was attributed to his regular life and wholesome habits; and it was thus, according to Aulus Gellius, that Socrates was saved in the plague at Athens. In the former plague the inmates of the monasteries and convents of Constantinople, in which sobriety was at least the rule, are said to have escaped contagion, although in their case seclusion from society was itself a protection. This, probably, had much to do with the immunity the colleges of Cambridge enjoyed when the town suffered so severely in 1665; and in the same way the prisoners in the dungeons of Rome were passed over by the plague of 1656. But the consumption of raw spirits—such as vodka, or rye spirits, which is drank in such quantities by the Russian peasant and soldier—has been proved to predispose the system to the reception of any malignant fever in a very peculiar degree. The plague which appeared in the Russo-Turkish campaign of 1828 limited its ravages almost entirely to the Russian lines, where, besides want of cleanliness, intemperance was the rule; the Turk, eschewing spirituous liquors and practicing a certain amount of ablution as part of his religion, escaping the disease. In Bucharest alone, where the disease broke out, 7,000 Russian soldiers perished of its effects. It carried off a very large proportion of the 40,000 the Czar Nicholas lost in the first year of the war, while the Turkish losses were due almost entirely to the sword.

THE ORIGIN OF THE PLAGUE

was supposed to have been in a murrain which made terrible havoc with the cattle of the Russian army, whose carcasses

bred the seeds of the fever. And a putrefaction of animal matter seems very usually to have invited the appearance of this terrible guest. The old plagues, which had their cradle generally in Upper Ethiopia, were commonly preceded by a scourge of locusts, and just before the epidemic in Bagdad in 1876, enormous quantities of these insects appeared all over Mesopotamia. The worship of the ibis is referred by ancient writers to his predilection for eating snakes. Cicero ("De Nat. Deorum") says these birds saved Egypt from the plague, the stench of the snakes when dead being proverbially as destructive as their bite when alive; and Dr. Gottwald, in his description of the plague which broke out in Dantzic in 1709, lays stress on the fact that before its eruption the place had been infected with an incredible number of spiders.

The plague of Astrachan has not been without a characteristic which has apparently distinguished all outbreaks of the disease at all times. It lay asleep during the colder weather, waking up again under the influence of a warmer and damper temperature. The seeds of the plague are not destroyed by a frost, but only rendered inactive for a time. Thus, in the plague which struck Genoa in 1656, during the first summer 10,000 died of it; the following winter hardly any at all; but in the summer which ensued 60,000 deaths occurred. In the same way, what we call the Great Plague appeared in London at the latter end of 1664, and was stopped during that winter by a hard frost of nearly three months' continuance, but broke out with full power the following spring.

The ancients never doubted but that the plague was an African fever, bred in Upper Ethiopia. From thence Thucydides and Procopius traced the plague to Athens and Constantinople, and though some modern writers have named Poland and Turkey as the two separate and distinct cradles of its birth, the best authorities were of the opinion that this was not going far enough to look for it; and the great plague of Marseilles of 1722 was confidently set down by Dr. Mead as having traveled by the generally received route. In those days there was little chance of the plague coming into Europe by way of the Caspian sea. After Egypt, Turkey was the

most likely conduit for its introduction to the West; and the plague of London, which came to us from Holland, is said to have been imported in bales of cotton into that country from the Levant. This article of merchandise, possessing as it does a peculiar aptitude for retaining as well as catching the seeds of any infection, has been always considered a most active breeder of the plague. In former days there used to be such an apprehension of the disease being conveyed to Italy from Alexandria or Syria that in Genoa, Leghorn, Naples and other Italian ports searchers were appointed, whose business it was to rip open the bales of cotton as they arrived, and, by thrusting their arms through them, admit the healthy influence of the air to every part of the goods. This brings us to the

MUCH DISPUTED QUESTION OF CONTAGION.

Formerly there was no such unanimity about it as happily now exists. Hippocrates, it is true, is said to have combated the theory that the plague came by a special visitation of Providence, and could only be met by sacrifices and lustrations; but so well-informed a writer as Procopius inclined to the opinion that it was not a contagious disorder, basing his reasons principally on the observations he made of the immunity the Byzantine physicians enjoyed during the plague in his time. Its appearance has been attributed by many writers, ancient and modern, to a peculiar disposition of the air; it was customary in very recent times to fire guns to disperse the poisonous atmosphere; and so obstinate have been the adherents of this incredible theory, that no evidence whatever has been able to satisfy them. Thus in the last plague of Marseilles a man was seized with it and died, after burying a young woman to whom he was attached, when no one else dared approach the body. Dr. Chicoynes, one of the city physicians, attributed his death not to the plague at all, but to his grief at the loss of his sweetheart. About the same time a medical man addressed a treatise to Sir Hans Sloan, then President of the College of Physicians, maintaining that neither goods nor persons are capable of communicating the plague; that therefore lines and quarantine are not only use-

less but pernicious; that the works of Mr. Lily, the astrologer, are the safest guides in a difficulty of this kind. Yet the evidence that could be produced even then of the contagious nature of the disorder was almost overwhelming. Boccaccio relates that in the Florence plague of 1348

HE SAW TWO HOGS,

which had found in the streets the rags which had been thrown out from off a poor man dead of the plague, after snuffing at them and tearing at them with their teeth, fall into convulsions and die in less than an hour. That the plague of Marseilles was imported in merchandise seems pretty evident, for the first person to take the disorder was one of the crew who brought the goods fron the Levant, and the next those who examined them at quarantine.

Dr. Mead relates that the plague of 1665 was conveyed from London to Eham, in Derbyshire, by means of a box sent to a tailor in that village containing materials belonging to his trade. A servant who opened the box complaining that the goods were damp, was ordered to dry them at the fire, but in so doing was seized with the plague and died. The same misfortune happened to the rest of the family, and to 200 or 300 persons in the village. In the plague at Genoa one fur garment was deadly in its effects to no fewer than twenty-five different persons who in turn possessed it; and infected goods, after having been packed away for many years, have been known when distributed to spread contagion. The directions issued by the College of Physicians and the Lord Mayor and Aldermen in 1665 to prevent contagion were very stringent. As soon as any house was found to be infected, it was ordered to be kept shut, with a large red cross painted on it, with the words: "Lord have mercy upon us!" Watchmen attended day and night to prevent any one going out or coming in save physicians, searchers, nurses, etc.; and this continued at least a month after the family were either dead or recovered. They commonly died, of course. According to these inhuman rules, the illness of one person involved his whole household in destruction; and this shutting up of houses and immuring whole families alive

was compared to the old Roman way of putting peccant vestals into a vault with a candle and some slender provisions, and so leaving them to perish at their leisure. In the plague of Rome in 1856-7 Cardinal Gastald adopted precautions more effective against the spread of the disease and at the same time of a more merciful character. The sick he caused to be removed to a lazaretto on an island in the Tiber, while those who had not sickened in the same house were conveyed to asylums outside the city. To ward off infections, the Arabians, who had much experience of the plague, advised keeping houses as cool as possible by strewing them with cooling herbs, violets, water-lilies, &c., and frequently sprinkling vinegar and water. They also enjoined the eating of acid fruits, such as pomegranates and oranges.—*London Pall Mall Gazette.*

ABSTRACT DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."

CONDUCTED BY EDWARD MILLER, M. D., LOUISVILLE, KY.

Sprains. By Dr. John H. Brinton.—Sprains are exceedingly frequent and, although lightly regarded by the community, are sometimes a most serious matter, involving not only present suffering but wearisome impairment of the junction of the part. A sprain is essentially a wrenching or twisting of the tissues which surround a joint, involving alike the ligamentous fibres, the fibrous capsule, the tendinous chords, the synovial membranes and the muscular structures in the neighborhood of the articulation. The injury may involve any or all of those tissues, and may vary in degree from a slight stretching up to laceration of the parts. The pain varies according to the amount of violence and the nature of the joint being greater in a compact tight joint, such as a hinge joint than in an orbicular joint. It may be slight or almost unbearable, and is oftentimes of a nauseating character, especially when the lateral ligaments are stretched. The

swelling which accompanies a sprain comes on immediately after the accident, there being a good deal of extravasation. Blood escapes freely into the tissues and the parts are puffy and discolored Afterward there is a an effusion of serum and the skin appears tense and shiny. There is impairment of motion, as the joint is usually very tender. Under ether motion is developed and is an important point in the differential diagnosis of sprain, fracture and luxation. The surgeon having established his diagnosis, with ether if necessary, the treatment may be divided into the acute and chronic. Rest, the application of cold water, lead water and laudanum and other like local agents constitute the former. There is one remedy which Dr. Brinton especially recommends, following the practice of Dr. P. B. Goddard, and that is hot water of the highest endurable temperature. When the case becomes chronic secondary inflammation has taken place, and the treatment must be rest—not occasional, spasmodic rest, but absolute rest. This rest is to be obtained by the application of a permanent dressing—the starched bandage, or, what Dr. Brinton prefers, the silicate of soda dressing. This is applied in the ordinary manner as for fractures, and is continued as long as there is any tenderness around the articulation. The bandage is cut open in front when hard, is daily removed, the limb douched with cold water, and the apparatus reapplied and confined with an ordinary roller.—*Medical Surgical Report*, Jan. 18, '79.

The Treatment of Early Phthisis. By J. Milner Fothergill, M. D.—Dr. Fothergill states that it is more important to study the tongue than to go over the chest with a stethoscope, and that attention to the stomach and bowels is just as essential as the treatment of night sweats. When the tongue is covered with thick fur it is nearly or quite useless to give iron or cod-liver oil; for the tongue is the indicator of the state of the intestinal canal, and absorption through the thick layer of dead epithelial cells is impossible. In this state it is well to give a compound calomel and colocynthe pill every second night and a mixture of nitro-hydrochloric or phospho-

ric acid, with infusion of cinchona three times a day till the tongue clears. When the tongue is raw, bare and denuded of epithelium the patient should take a mixture of bismuth with an alkali and use a milk diet. Seltzer water and milk will often agree when the milk alone is found to be too heavy and constipating. When the tongue has become normal, all drain from the alimentary canal must be checked and cod-liver oil and iron administered. The diarrhæa of the early stages of phthisis is readily checked by a pill of half a grain of sulphate of iron and one grain of opium, rice water being used as a drink. In women menorrhagia and leucorrhœa should be looked for and stopped. The true treatment of hæmoptysis is founded upon a correct appreciation of its associations and concomitants. The diet must be nutritious and there must be plenty of fresh air. In some cases blistering and strapping the chest are useful; cough mixtures generally do more harm than good. Hydrobromic acid with spirits of chloroform makes a valuable remedy in affording relief from harassing coughs. The night sweats are to be treated with belladonna and oxide of zinc or by aromatic sulphuric acid.—*The Practitioner.*

On Apoplexy on the Pons. By W. R. Thomas, M. D., M. R. C. P.—As apoplexy of the pons is a rare disease and liable to be confounded with other lesions, Dr. Thomas reports the case he encountered: The patient, a man of fifty-five, was brought home supposed to be dead-drunk. He was put to bed and allowed to sleep three hours, when Dr. Thomas was sent for. The patient was found to be perfectly insensible, nor could he be aroused by being shouted at or shaken. The pupils were insensible to light and were much contracted, the right one much more than the left. The arcus senilis was evident. The breath smelt of brandy. The limbs were paralyzed, sensation and motion were quite absent, although there had been some slight twitchings at first. The respiration was slow and stertorous. The right cheek was more flabby than the left. Even the eyelids could not be made to act. The patient gradually grew worse, passed his fæces involuntarily,

and in about twelve hours after being found was dead. On post mortem examination there was found a small clot occupying the lower part of the right side of the pons, and the parts around were conjested. In alchohol and opium poisoning there is general paralysis and perfect insensibility, and in opium poisoning there is in addition, contraction of the pupil. Dr. Thomas diagnosed it as a case of apoplexy of the pons, because the coma came on suddenly and not gradually as it does in opium and alchohol poisoning; slight twitchings were observed at the outset, the insensibility was complete, the pupils were contracted, but also irregular, one cheek was more flabby than the other, the habits of the patient had been sober, and there was no depression of spirits as generally observed in patients previous to their taking opium. The patient had evidently taken brandy, but a small quantity had been given him by his friends. Dr. Thomas concluded that it was not owing to uræmia, as there was no history of previous disease and the attack had come on suddenly without convulsions. The pupils were contracted and the symptoms pointed to apoplexy of the pons. The clot was found in the lower part of the right side and the right cheek was observed to be more flabby than the left. Dr. Thomas thinks that if the clot had not been so large there would have been unilateral symptoms, perhaps paralysis of the left side, as the clot was in position to press upon the fibres from the left side, which had decussated in the medulla, and the fibres of the right facial, which, together with the fifth, cross in the pons.—*The Lancet.*

Observations in Urinary Pathology and Therapeutics. —Dr. Ralfe has been investigating the action of bicarbonate of potash on the urine. Dr. Jones and others had noticed that bicarbonate of potash caused an increase of acidity in the urine on the following day, an observation at variance with the common opinion as an antacid. Dr. Ralfe finds that when taken in drachm doses an hour before meals the acidity of the urine is lessened on the day of ingestion but is increased on the following days. The urine does not remain alkaline for more than two hours on the day of experiment,

while the acid passed in the next three hours is a little less than the acid excreted in the five hours on the day following this experiment. The excretion of uric acid is therefore increased on the days when the bicarbonate is taken. When the salt is taken after meals the acidity of the urine disappears, and on the following day there is no increase in the acidity of the urine. Dr. Ralfe supposes that when a bicarbonate is taken before meals it is absorbed undecomposed into the blood, causing an increase in the acidity of the urine, because the chief acid salt of the blood is the bicarbonate of potash or soda, which are acid salts with an alkaline reaction. When the salt is taken after meals, during digestion, the acid of the gastric juice decomposes it, the alkaline bases are absorbed and cause the urine to become alkaline. The therapeutic indications to be drawn from these observations are: (1) In cases of acid dyspepsia, arising from the excessive formation of acid within the system, as in lithæmia, the alkaline bicarbonate should be administered after meals; (2) In those cases where free acid is formed in the stomach itself, the result of fermentative changes, of undigested food, or morbid mucus, when it is necessary to diminish the too high degree of acidity thus caused, in order to allow digestion to be properly performed, the salt should be administered before meals. —*The Lancet.*

Forcipressure, by L. S. Pilcher, M. D.—The distinctive feature of the operations of M. Pèan, surgeon of the Hospital Saint Louis, Paris, is the great use made of certain light catch-compression forceps, as a means of hæmostasis. The forceps are long, slender and elastic, and resemble the ordinary polypus forceps of the pocket-case. There is a projection on one branch just below the ring, on which a hook on the other branch catches, so that the forceps may be quickly locked in a secure grasp. In the course of an operation all bleeding vessels are at once seized and compressed by the forceps, no effort being made to exclude fibres of the surrounding tissues, if the vessel is small. The number of forceps used will vary, but Dr. Pilcher has seen as many as

thirty of these little instruments clinging to the extensive raw surface in a case of ovariotomy. M. Pèan claims no priority in the use of this method of arresting hæmorrhage, as many surgeons have extolled it before, and his forceps are but a modification of the serres-fines of Vidal de Cassis. The appellation of forcipressure was given to this method by M. Verneuil, in 1875. The length of time during which the forceps should remain varies much. Those applied to the arterioles of the skin, connective tissue and muscle, may usually be removed at the close of the operation. From arteries of medium size, they may be withdrawn six to twelve hours after the operation. Upon the main arteries of the limbs, including the femoral, M. Pèan advises that they be left from two to four days. Veins rarely demand compression after the close of the operation, except the great venous trunks, which, however, require it for a shorter time than arteries of the same calibre. The sojourn of these forceps produces no inconvenience even in tissues and organs most prone to inflammation. The claims for forcipressure are that by rendering unnecessary the ligature in the course of operations, it shortens their duration; by leaving no foreign body in the wound, it promotes cicatrization and union by first intention, and finally, in cases where the ligature is impracticable, this method will replace advantageously other means hitherto used. These forceps can also be used to prevent hæmorrhage in the removal of pediculated tumors. Dr. Pilcher has tried forcipressure in ablation of the breast, in the removal of hæmorrhoids, in tracheotomy, in amputation of the leg and in secondary hæmorrhage from the coronary artery with advantage. In tracheotomy, particularly, he praises the ease and certainty with which he arrested annoying venous hæmorrhage.—*The Proceedings of the Medical Society of the County of Kings, January*, 1879.

The use of the Elastic Ligature in Fistulous Tracts. By Walter Ela, M. D.—In surgical operations the means usually employed are cutting, crushing, cauteries of various kinds or a combination of them. Although the knife is pe-

culiarly the surgeon's instrument, the use of other means must not be regarded as a retrograde step in surgery. The use of a ligature, made of silk or other material, in the treatment of fistulous tracts dates back to the time of Hippocrates. The non-elastic ligature has the disadvantage that only a small portion of tissue can be cut through, then the ligature is loose and subsequent tightening is necessary. To obviate this the elastic property of India-rubber has been resorted to. Prof. Dittel, of Vienna, who, although not the discoverer, first brought the practice into notice, has applied it to all sorts of affections; for instance: for the ligature of arteries, for fistula ani, for the radical cure of hydrocele, for amputation of the breast and even amputation of the leg. The elastic ligature, when applied, acts gently by continual circular compression, the compressed part necrosing. The elastic ligature is applicable (1) to debilitated, phthisical subjects. (2) When the track of the sinus is simple and there are no collateral sinuses. (3) When in the track we are likely to divide considerable vessels. (4) When the patient has a dread of cutting instruments. The advantages of the elastic ligature over the knife in dealing with ordinary sinuses are: the introduction of the ligature is usually painless, the patient is not confined to his bed, the cure is more rapid, there is no hæmorrhage, but little suppuration, and it is a curious fact that the wound heals as the ligature passes through. Dr. Ela employs the solid rubber cord, not rubber tubing, such as Prof. Dittel uses. This cord, one m. m. diameter, can be easily stretched to eight times its length and breaks under two and a half pounds weight. After the ligature has been passed and drawn tight, it is fastened by means of a pewter clamp, which is compressed on the cord by a pair of strong forceps. It is not necessary to fully stretch the cord and the pewter clamp is better than tieing a knot. The ligature pulls through in from five to seven days, depending upon the length and thickness of the sinus and the degree of traction employed. The after treatment consists of simple carbolised oil on a little cotton wool and careful examination to see that there are no other sinuses.—*The Boston Med. and Surg. Journal.*

TONSILITIS. By WM. PEPPER, A. M., M. D.—A patient has a chill, followed by high fever, and in twenty-four hours complains of sore throat. Upon examination the glands at the angles of the jaws are found enlarged. The tonsils are red, swollen and engorged, with absence of any pseudo-membrane; the uvula swollen and elongated. Frequently there is herpes labialis. This is tonsilitis and is met with in various forms: 1. Simple, acute, diffused, tonsillar inflammation; 2. The tonsils are not only engorged but their surfaces are dotted with whitish points, which are the distended follides; 3. A phlegmonous form, characterized by violent inflammation of the entire tonsil, which is enormously swollen, tense, red and painful. After one tonsil has suppurated the other may be attacked. All varieties of tonsilitis are usually attended by marked constitutional symptoms. In children they may be ushered in by convulsions; in adults chills usually constitute the precursory sign. The fever which follows may be very intense, the pulse is rapid, and the temperature not rarely reaches 103° or 105°. The local symptoms are dryness and severe pain in the fauces, a sense of obstruction, leading to frequent and painful attempts at swallowing, difficulty of deglutition, which rapidly increases, until in the phlegmonous form it becomes impossible. The voice is nasal and smothered. The treatment varies with the form. The most usual remedies are guaiacum, iron, chlorate of potash and quinia. Guaiacum, useful in all the varieties of tonsilitis, is almost a specific in the follicular form. It is given in doses of three to five grains every three hours. Iron is given in large and frequently repeated doses. The tincture of the chloride is the best preparation, and is given to adults in doses of twenty to thirty drops in sweetened water every two or three hours, and to children in proportionally large doses. Topical applications are also necessary. The most efficacious are either a forty-grain solution of nitrate of silver or a mixture of equal parts of tr. ferri., chlor., glycerine and water. In the phlegmonous form no remedy will, as a rule, prevent suppuration, although the attempt should be made. If the inflammation progresses suppuration should be en-

couraged by hot poultices, and as soon as palpation reveals fluctuation in the tonsils an incision should be made and the pus allowed to escape.—*The Medical and Surgical Reporter.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—*Case reported by* J. D. ROBERTS, M. D., Magnolia, North Carolina.

On account of its severity, together with the obscurity and difficulty of a diagnosis, the case here reported excited great interest.

William Ezzell, a young, hearty, strong man, æt. 19, with a short neck and rather florid complexion, was attacked on October 24th with an ordinary chill followed by a fever. At night took four *patent* pills, followed on the morning of the 25th by a dose of Epsom salts, which operated freely during the day. 26th he expressed himself as better and left home for a neighbor's to do an errand. At 8 A. M., he started for home, and was found, two hours afterwards, a quarter of a mile off, unconscious, lying partly in a pool of water. When he started for home he was whittling a stick; knife and stick were both near him.

I saw him at 3 P. M., pulse free, strong, and 76 per minute. Pupils first dilating and then contracting. Respiration natural, except when in a convulsion. Has vomited several times a greenish matter mixed with partly digested food.

He lies most of the time in a semi-comatose condition; convulsions occurring every one-half to three-quarters of an hour, not very strongly marked, being ushered in by a restlessness, moaning and tossing of limbs, followed by slight contractions of muscles of face, then extremities, the whole lasting probably two minutes.

Has passed urine in bed. No examination of urine as I had no catheter with me. Bowels moved in the early morning. Stomach empty.

During the second convulsion after my arrival, I administered chloroform by inhalation, which had the desired effect in cutting short the paroxysm.

Gave stimulating enema without any effect. Repeated in half an hour with like result. Deglutition being difficult, administered per enema, 10 grs. bromide potash. Ordered 10 grs. bromide potash and 5 grs. chloral every two hours. Left him at 8 P. M., condition same, except convulsions are not so frequent.

October 27, 9 A. M.—Has had no convulsions since midnight. Lies in a stupor, breathing labored and occasionally stertorous. Pulse sluggish, with no elasticity. Pupils largely dilated. Sent for Dr. Roberson, but he being from home, did not arrive till I was gone.

In the meantime, bathed patient's feet in hot water with mustard, and poured cold water on his head. Applied a blister to stomach. Attempted to bleed but failed, though I opened five veins; a few drops of very thick blood oozing from each orifice, then ceasing altogether. Continued bromide potash and chloral. Deglutition more difficult to-day. Gave an egg per enema, and left at 2 P. M.

28th, 9 A. M.—Met Dr. Roberson in consultation. Dr. R. saw the patient yesterday at 4 P. M. In addition to treatment, he had patient's hair cut, and hot bottles applied to feet. Administered 1½ drops croton oil, which operated in an hour.

Patient's condition this morning about the same. In consultation, gave 10 drops oil turpentine every 3 hours:

℞. Calomel, ℈j, ex. Colocynth comp. gr. xv. Div. in 3 powders. One every 2 hours.

Quinine grs. 8 and capsicum grs. 4, twice daily.

29th, 9 A. M.—Saw him with Dr. Roberson. Still unconscious; pupils natural; very restless, though no convulsions; slight action on bowels this morning, patient going out of doors for the purpose. Gave castor oil and continued bromide potash. Egg enemas several times a day.

30th.—Condition much better. Patient is rational part of the time, but sleeps a great deal; can be aroused with difficulty, but recognizes attendants when fully waked. Bowels open. Appetite good. Placed him on a tonic course, under which he made a rapid recovery.

No diagnosis was agreed on in consultation. That there was cerebral congestion is evident, but the cause is in obscurity. The age of the patient enables us to leave out apoplexy. The kidneys acted freely through the whole attack. The tongue was much furred at first and the portal circulation impeded. As the case yielded to an anti-malarial treatment, may it not have been caused by excessive malaria? I must think this the cause, though I do not remember ever hearing of a case so serious before.

ART. II.—*Clinical Cases.* Translated by Dr. R. BRANDEIS, Louisville, Ky.

A case of great rarity—that is, abscess of the left ary-epiglottic fold—has recently been observed by Dr. B. Wagner in a man, aged 62 years, who was attacked suddenly with difficulty in deglutition, slight pain in the throat and general malaise. The laryngoscopic examination revealed the following: The epiglottis somewhat congested, and the posterior surface of the left arytenoid cartilage, particularly in the neighborhood of the cartilages of Wrisburg and Santorini, as well as the left ary-epiglottic fold, were very red and swollen to the size of a small hazel-nut. The swelling itself, as well as the œdema of the surrounding parts became reduced in the course of the next two weeks, and in the following week a slight discharge of pus took place from a small opening in the tumor, which continued for two weeks more. The dysphagia continued for some time longer. Dr. Schmitz, in an interesting article on idiopathic retro-pharyngeal abscess in the first two years of life (Archive for Diseases of Children, Vol. VI.), says that in three years he has seen sixteen cases of this affection. Not one of these was associated with caries

of the vertebræ, and therefore Dr. S. calls them idiopathic. The author believes that the disease is commonly due to a lymph-adenitis of the post pharyngeal lymphatic glands, which are constantly present up to the third year of life. In seven of the sixteen cases reported the abscess formed a soft swelling below the jaw and under the sternocleidomastoid muscle. All of these cases were less than two and thirteen less than one year old.

The symptoms are quite peculiar. Respiration is labored, carried on through the half-opened mouth and attended by a loud snoring noise, which is unlike that observed in croup and very like that accompanying hypertrophied tonsils. The neck is stretched out; the head bent backward; there is a sense of fullness, or even actual swelling, in the neighborhood of the angles of the lower jaws. Milk is regurgitated through the nose and mouth. Inspection of the throat is not easy. When the throat is depressed by a spatula the child chokes and the fauces become filled by regurgitated milk or mucus. Under favorable circumstances an elevation can be seen on the posterior wall of the pharynx. Palpation is much more decisive; by a few touches the size, position and nature of the abscess can be determined. In every case of dyspnœa in an infant, without obvious causes, the possibility of retro-pharyngeal abscess should be considered. The result of Schmitz's cases were as follows: Thirteen recovered perfectly, one was lost sight of, two died. One death was sudden and propably due to œdema glottidis (the abscess having been opened). The other child was neglected by its mother and died of marasmus. Spontaneous bursting of the abscess is usually fatal, owing to the entrance of pus into the larynx. Resolution never occurs.

The treatment consists in the opening of the abscess by the knife. Whether this be made in the pharynx or in the neck or in both depends upon circumstances. The latter should be avoided if possible. Seven times Schmitz made the opening in the pharynx only, three times in the neck only and five times in both places. He uses a conveniently guarded knife, the blade of which is uncovered at the very

time it is wanted, and then covered again, so that all possibility of an accident is avoided. At the moment when the knife enters the abscess the tip of the left forefinger is used to depress the epiglottis and to shut the larynx.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

ART. I.—*The aid which Medical Diagnosis receives from recent discoveries in microscopy.** By C. HEITZMANN, M. D.

A few months since I had a conversation with a renowned physician of this city, in the presence of an intelligent cloth manufacturer, about the great value of the microscope, especially in the practice of medicine. The physician laughed at me, and asserted the science of microscopy to be good for nothing, because of its low development, its unreliability with regard to new discoveries, etc. The layman turned toward the physician and said: "Doctor, you are very much like an engineer, who is destined to remedy alterations of a wonderfully complicated machine, without knowing any thing of its structure." It strikes me that the manufacturer has found the truth. In fact, a physician, who is not well posted in anatomy, both macroscopical and microscopical, is on the same level with an Indian medicine-man, who dabbles all the time in therapeutics, and when asked why he gives a certain herb in one disease and a certain mineral in another, refers to his experience only, without the least scientific foundation.

I am far from blaming any physician, who, perhaps, ten or even five years ago, has studied microscopy, and left it disgusted or in dispair. The standard doctrine of "cells" and the "cellular pathology," was unsatisfactory indeed. No thinker could ever have been content with the principles of

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the cell-doctrine, and every one is aware of the little advantage medicine has gained from the cellular pathology. Beyond the proof of the presence of "cells," microscopy did not advance, and the examiners have been satisfied, if they could see "cells," the greatly varying shape and size and appearance of which they had to admit, without knowing any of the causes of the variations.

To-day the cell-doctrine is surpassed by new discoveries. Instead of looking at the shape of the "cell," we have learned to study the minute structure of its mass, the so-called protoplasm, of which we know that it represents a constituent part of the organism. Many of the morbid relations of the protoplasm have been revealed, and made use of for practical purposes. We climb upward upon the shoulders of the ingenious founder of the cellular pathology, R. Virchow; and that the new doctrine, for which has been proposed the term "Bioplasson-Doctrine," has really arrived at a certain point of perfection, I presently intend to demonstrate.

Let us first take into consideration the fluid, with the examination of which the physician is mainly interested: the urine. In my conviction, it is vain to study the sediments of urine, without a thorough knowledge of the minute anatomy of the kidneys, and in vain will any one endeavor to understand the kidneys without a good knowledge of their constituent tissues; connective tissue, blood vessels, nerves, epithelia. The knowledge of the structure of the kidney involves the knowledge of the whole histology. For the present I will confine myself to the consideration of two formations in the sediments of urine only, viz.: the tube-casts and the pus-corpuscles.

We know that the renal artery, after repeated ramifications on the boundary between the cortical and the pyramidal substances, sends branches upward into the former at pretty regular intervals, from which arise the arterial roots of the tufts, the afferent vessels. The tuft itself is formed by capillary loops, which empty their blood close to the entrance of the afferent vessel into an artery again, the efferent vessel; this lastly branches into the capillaries of the cortical, and

partly also of the pyramidal substance. The tuft, after C. Ludwig, has to be considered as a greatly widened river-bed of the afferent artery, at the same time split into numerous narrow capillaries, which being doubled over, unite in the afferent artery. The capillaries of the tuft contain arterial blood; they produce, what has been termed by old anatomists, "an arterial wonder-net." The tuft is surrounded by a connective tissue capsule, and into the cavity of this capsule is poured the first formed, almost completely watery urine. Through the researches of Bowman, of London, we know that the capsule opposite to the point of insertion of the afferent and efferant vessels is perforated by, and continuous with the convoluted tubule of the first order. These tubules occupy only the lower portion of the cortical substance. The convoluted tubules pass into the narrow or loop-tubules (Henle), which, after having reached a certain depth in the pyramidal substance, turn back into the cortical substance, and become widened again, so as to form the convoluted tubules of the second order, on the outermost part of the cortical substance. These convoluted tubules empty into straight tubules, which, by repeated union of analogous tubules, become larger and fewer, lastly terminating on the points of the pyramids.

We know that the three varieties of uriniferous tubules, viz., the convoluted, the narrow and the straight, are lined by three varieties of epithelia: the convoluted tubules by cuboidal, the narrow tubules by flat, and the straight tubules by columnar epithelia. All formations of the kidney are surrounded with and accompanied by a delicate connective tissue, bearing a large number of blood vessels. The capillary blood vessels, especially those forming elongated loops in the pyramidal substance, lie together with bunches of the narrow tubules. With this elementary knowledge, we are ready to understand some of the morbid processes in the tissues of the kidney.

Since Richard Bright in 1827 drew attention to kidney diseases, so often fatal, the term "Bright's disease" has been widely used by pathologists and physicians for the designa-

tion of different morbid processes, of which we understand to-day that they are partly primary, partly secondary and mainly inflammatory in nature. Indeed, the term "Bright's disease" includes so many processes, that it has to be considered as an unscientific one, worthy of being completely forgotten. Virchow first analyzed the inflammation of the kidneys in a satisfactory manner, though his views on the seat and termination of the inflammation—either in the interstitial connective tissue, or in the epithelium—are not tenable. The inflammation may start in any of the constituent tissues of the kidney, the epithelial lining as well as the interstitial connective tissue will participate in the morbid process under all circumstances. It is only the degree of the inflammation and the product of the process which bring about different results.

Dr. Alfred Meyer has carefully examined with the microscope the different forms of nephritis in my laboratory; the result of his researches are published in the Transactions of the Imperial Academy of Science of Vienna, in 1878. He found that it would be better to return to the old-fashioned denominations, viz., catarrhal, croupous and suppurative nephritis, the difference being thoroughly established both by the exudation and the material changes in the tissues of the kidney. In catarrhal nephritis, besides serous exudation, first swelling of the epithelia, later desquamation, and lastly destruction of the epithelia takes place. These later, after having been reduced into indifferent or medullary elements, together with others arisen from the connective tissue lead to a considerable increase of the interstitial connective tissue, to shrinkage of the kidney, with the termination into cirrhosis, the small, granular kidney.

In catarrhal nephritis the urine will exhibit besides a varying amount of dissolved albumen, (even this sometimes is missing,) only desquamated epithelia of the kidney more or less changed, but no tube-casts. The highest degree of shrinkage of the kidneys may be induced, without any other sign under the microscope, during the life of the patient.

In croupous nephritis the most charactistic features are

the tube-casts, first seen and explained as croupous exudation by Henle in 1841. The interstitial connective tissue is considerably infiltrated with medullary or inflammatory elements; the small arteries, especially the capillaries within the tufts are dilated and transformed into masses fully analogous to those of the tube-casts; at least the walls of the vessels are saturated with a substance identical with that in the tubules themselves. The formation of tube-casts has been explained in three different ways: by mere croupous or fibrinous exudation, by transformation of the epithelia, and by secretion from the epithelia.

The micro-chemical researches of Rovida have revealed that the casts can not be considered as simple fibrine or albumen or colloid, but giving the reaction of proteinates, must be looked upon as a somewhat modified albuminous substance. Doubtless this substance is an exudation from the blood vessels, and in so far the expression, "croupus nephritis" is justified. The epithelia themselves as a rule are present around the cast, though very irregular, mangled and flattened, and in the substance of the cast we often meet with traces of swollen and altered epithelia. Inasmuch as every fluid, being once in the lumen of the blood vessel, and afterward in the lumen of the tubule, necessarily must have passed through the epithelia, the secretion theory is not tenable. But the question arises: are the epithelia only partly or completely transformed into the mass of the cast? In the former instance the epithelia around the cast must be considered as remnants of the original ones; in the latter instance as altogether newly formed. Which of these views is the correct one, we as yet have to decide.

Croupous nephritis under all circumstances is a severe disease. There are but two conditions known, in which com plete recovery takes place, viz., in children after scarlet fever or diphtheria, owing to the great recuperative power of the juvenile age, and in women during pregnancy and after delivery, owing probably to the fact that only the right kidney is attacked by the disease, through pressure of the pregnant womb upon the right ureter, while the left kidney is little changed,

and is fit for performing the duties of both. In persons who have recovered from croupous nephritis, even many years afterwards, when they die of some other disease, the traces of nephritis are visible on the surface of the kidney in the shape of irregular cicatricial retractions. Within these the tubules are missing or present as irregular clusters of epithelia, the so-called atrophy. In the great majority of the cases of croupous nephritis the prognosis is unfavorable, and if one attack is not sufficient to induce fatal termination, nay, partial recovery is possible, sooner or later the fatal end will ensue through uræmia.

The most characteristic sign of croupous nephritis is the presence of tube-casts in the urine, and in my experience the casts are always indicative of the disease, the more so, the larger the accompanying amount of the albumen. Reliable observers have seen casts without albumen in the urine, and it has been asserted that mere hyperæmia of the kidneys may suffice to throw casts into the urine, without any evil consequences, for instance, in treatment with large doses of iodide of potash. The former assertion I can corroborate ; the latter is not in concurrence with what I have seen; the casts surely indicate nephritis, and the larger the number, the more serious is the disease.

We distinguish six varieties of tube-casts, viz., hyaline, epithelial, blood, granular, fatty and waxy casts. Their diagnostic value is as follows : The hyaline and epithelial casts—I do not mean the desquamated epithelial tubes, but hyaline casts, studded with epithelia—indicate acute croupous nephritis. The blood-casts show hæmorrhage within the kidney ; a larger number of such casts almost always foretells fatal termination in a short period of time. If blood-casts have been retained in the tubules for some time, the blood-corpuscles lose their shape, and the cast looks like a dark red-brown, granular cluster. Granular, fatty and waxy casts, appear in the protracted, chronic forms of croupous nephritis ; the granular especially are due to the disintegration of the lining epithelia ; the fatty indicate fatty degeneration of the kidney, secondary to croupous nephritis. In all these instances the substance of the casts are the same, and only the outer adhering forma-

tions give the difference in the appearance. Waxy casts are different in their chemical nature from hyaline casts, being characterized by a great refracting power, wavy, curved outlines, and a high degree of brittleness. Such casts will not be seen—against the views of recent writers—unless waxy degeneration has been established in the kidneys.

Besides a great prognostic value attaches to the size of the casts. As a matter of course, casts formed in the convoluted tubules of the first order, never will appear in the urine, as they can not pass the narrow tubules. The mildest degrees of the disease are indicated by casts from the narrow tubules, the narrowest casts, and a small number of casts from the convoluted tubules. Not infrequently we meet with pedunculated casts, viz., formations from the place of transition of the narrow tubules into convoluted tubules of the second order. Casts from the convoluted tubules justify the diagnoses of croupous nephritis in the cortical substance; casts of all the three sizes, the largest arising from the straight tubules, permit of a conclusion of croupous nephritis in the whole organ, and upon this occurrence a very unfavorable prognosis can be established.

Based on these simple facts I was enabled to give a prognosis, even where no danger was suspected by the attending physician. Dr. X., a prominent practitioner of this city, two years ago brought me some fresh urine passed by his son, six years old, who had just recovered from a slight diphtheritic attack of the throat. The question was, whether in the fresh urine there could be seen moving micrococci and bacteria. I really found these low organisms, but besides also numerous tube-casts ot all the three sizes. I told the father that his son was in danger, and should be kept in an even temperature and on a low diet. He laughed at me and asserted that there was nothing from the clinical standpoint to justify such an alarming diagnosis. This happened on a Sunday, and I did not hear of the child until next Wednesday, when I was informed, that the boy had died in a uræmic fit. The physician now began to believe in microscopy—since he even purchased a microscope, and last year in January he

brought me some urine of his wife, containing a moderate quantity of albumen. In this urine I found fatty casts from the convoluted tubules, and as the gentleman wanted to have a prognosis, I told him that his wife had to live for only one or two years longer. In this case I was mistaken, as the lady three months afterwards was carried away by uræmia.

As to the pus-corpuscles, which appear very often in the sediment of urine, I would remark that in general, their source can not be told, unless they be accompanied by desquamated epithelia. The largest of these come from the urethra and the vagina; the smallest from the kidneys, and they generally decrease in size, the higher up they cover the urinary tract, those from the pelvis being often caudate, viz., provided with elongations of different shapes. In chronic catarrhal cystitis the flat epithelia, with which we invariably meet in acute inflammation, are as a rule missing, but the pus-corpuscles are provided with dark-brown pigment-granules, so as to allow of a correct diagnosis of chronic cystitis. When the pus-corpuscles are mixed with epithelia of the kidney, both being present in a large number, the diagnosis of a suppurative process in the kidney is to be made, the surer, if shreds of fibrous connective tissue be admixed to the pus. When, besides the mentioned occurrences also crystals of hæmatoidin, small, red-brown prisms and needles are present, remnants of a former hæmorrhage, the diagnosis will be chronic abscess of the kidney. Such a diagnosis proved to be correct in a case of Dr. Stephen Smith. A suppurative process in the kidney is always accompanied by croupous nephritis, hence the characteristic features of both, viz., pus-corpuscle; and tube-casts may be found in the sediment of the urine.

The examination of the sputa also can throw light upon a number of morbid processes in the respiratory tract. The most common question of physicians is: what is the difference between mucus and pus-corpuscles? The mucus, as well as the salivary corpuscles, are protoplasmic bodies, formerly enclosed in a shell of cement-substance, and thus forming what we call epithelia. The transformation of protoplasm

into saliva, mucus and pepsin, has been carefully studied by R. Heidenhain, of Breslau. The transformation into mucus can directly be demonstrated on the epithelia of mucous glands of the frog's skin, and on the culumnar epithelia of the small intestine of any freshly killed animal, from which we remove parts of the mucous lining with curved scissors. On the epithelia of such slices we succeed in watching the process of the formation of mucus-globules from the protoplasm of the epithelia, after we added a drop of a very dilute solution of chromic acid or bicromate of potash; pure water being too impetuous in its action. We see the protoplasm swell and transformed into a pale homogeneous mass, nearest to the top of the epithelia. Here the shell of the cement-substance bulges out and is thinned until it becomes broken on the point of the greatest convexity and allows the escape of the mucus-globule. Not infrequently the whole mass of protoplasm is evacuated from the interior of the distended shell of cement-substance, which being partially or totally emptied, gives the aspect of what has been termed a "cup or goblet-cell." This lump of protoplasm is now a mucus-corpuscle and still endowed with properties of life. Where an inflammatory process is established, the living matter of the protoplasm of the epithelia is soon increased; in other words the protoplasm becomes coarsely granular, and if freed in this condition forms what we call a pus-corpuscle. The main difference between a mucus and a pus-corpuscle, therefore, is that the former looks finely, the latter coarsely granular, though both are essentially the same thing. Pus-corpuscles on the average are also more coarsely granular than colorless blood corpuscles, with exceptions which I propose to explain later on. The identity of these bodies can not be maintained, and the assertion of J. Cohnheim that all pus-corpuscles, nay all inflammatory elements, are merely emigrated colorless blood corpuscles, is a great mistake. The formation of pus-corpuscles from epithelia and connective tissue directly can be observed, and no one has the right to call pus-corpuscles altogether emigrated colorless blood-corpuscles, though all of us agree that these share in the formation of pus.

We can not tell by watching pus-corpuscles in the sputa, what their source is; perhaps black pigment-granules in the pus-corpuscles indicate that they have arisen from a pigmented lung. Only the presence of elastic fibres in the sputa is a sure sign of destruction of the lung, inasmuch as such fibres are present in a varying amount in the walls of the alveoli. Of what nature the destruction is can be ascertained only, if the elastic fibres be accompanied, besides pus-corpuscles, also by shrivelled up and broken protoplasmic lumps, which indicate cheesy transformation of the inflammatory product, so common in tuberculosis. These occurrences in the sputa of a gentleman, shortly after his return from Florida, where he had spent several years in a good condition, led me to the diagnosis, that the tuberculous ulceration was rapidly advancing in his lungs, and would be followed soon by death, which proved to be correct.

Exceptionally also the new formation of sarcoma in the lungs can be diagnosed by the examination of the sputa alone, as illustrated by the following case which occurred three years ago. A justice of this city, about sixty years of age, had a tumor in his right groin which, after repeated extirpations, always recurred and recently began to grow rapidly. The consulting surgeons made the diagnosis "cancer," and foretold an approaching ulceration, for which the relatives had to be prepared. The attending physician, Dr. Schöney, soon afterward brought some sputa of the patient into my laboratory, being struck by the large quantity. On microscopic examination, besides pus-corpuscles, also numerous globular elements were seen, characteristic of the so-called round-cell-sarcoma. The diagnosis was: secondary formation of the sarcoma in the lungs, due to a primary sarcoma in the groin, which latter would not ulcerate. The post-mortem examination a few weeks afterward fully corroborated my diagnosis, though I never had seen the patient. The lungs were crowded with white nodules of sarcoma, and the tumor in the groin proved to be an alveolar sarcoma, which had never come to ulceration.

The examination of rectal discharges may give valuable in-

formation as to the nature of the disease. We can tell catarrhal proctitis from the presence of cylindrical epithelia, broken down, and coarsely granular or almost homogeneous, before their transformation into pus. In dysentery the pus and blood-corpuscles are prevalent; in blennorrhœa, pus-corpuscles are present only. Ulcerative destruction is indicated, if, besides the named formations, also shreds of fibrous connective tissue be present; while single or grouped smooth muscle-fibres lead to the diagnosis of a deep ulceration. Recently this diagnosis was made in my laboratory, in a case in which no clinical diagnosis was possible, on account of the seat of the disease in the upper portion of the rectum.

Many different things, passed through the rectum, come to a microscopic examination. Dr. Stephen Smith brought me a large brown sheet, passed by a lady, which proved to be a part of the leaf of a tree. A druggist sent a number of pale, yellow villous clots, which had been passed by a girl after a dose of cathartic, having apparently caused severe abdominal pains. The clots proved to be cores of oranges. The most interesting case in this series is the following: Dr. V. Marvlag, of Elizabeth, N. J., two years ago sent me a large quantity of a villous mass, the like of which had been passed by a woman for several years. Different physicians had suspected an abdominal pregnancy, with subsequent perforation into the rectum, which diagnosis was apparently sustained by a scar on the posterior wall of the vagina. I found under the microscope nothing but remnants of plants, thorns, spiral air-vessels, and little changed vegetable protoplasm, enclosed in a frame of cellulose. I wrote to the doctor that the patient was hysteric, and intended to deceive the physicians by swallowing raw vegetables, of what nature I could not tell. The doctor showed my letter to the woman, who began to cry, and asserted that she never had done such a thing. The queerest part, however, is that since she knows that we know what the matter is, she is cured, and never since has passed any of the former masses.

The microscopic examination of tapped fluids may, under certain circumstances, give important hints as to the nature

of the disease. My experience in this department being not very large, I will confine myself to the consideration of fluids from the abdominal cavity only. We know that in the fluid of ascites there exists a varying amount of dissolved albumen and fibrin, sometimes also of mucin. The morphological elements are swelled endothelia of the peritoneum, often together with a few pus-corpuscles. The cysts about the uterus and in the broad ligament contain only dissolved albumen, but scarcely any protoplasmic bodies. The cysts of the ovary are characterized, after the discovery of Drysdale, by the presence of large round bodies, coarsely granular, not yielding to acetic acid. These bodies are flat epithelia in fatty degeneration, and were thought to be characteristic of ovarian cyst. In several cases I made the diagnosis of such a cyst, which proved to be correct. In one case the clinical diagnosis was retro-uterine abscess, while I asserted, upon finding Drysdale's corpuscles in the tapped fluid, that the disease must be an ovarian cyst in suppuration. On the post mortem examination my diagnosis was found to be right. Recently, however, we have learned from our excellent gynæcologist, T. Gaillard Thomas, that these corpuscles are present also in extra-uterine pregnancy, which diagnosis he maintained, although a microscopist found Drysdale's corpuscles in the tapped fluid. Had I examined the fluids, in all probability I had made the same mistake; but has any one the right to blame microscopy for such mistakes? I think not. The science of microscopy is as yet in the cradle, and it is only by faithful co-operation of the clinician with the microscopist, that we shall succeed in raising its level to the highest possible standard. The standpoint of some microscopists, who look with contempt at the work of the practitioner, and that of some clinicians, who laugh to scorn the sterile efforts of theoretical microscopists, are equally wrong. Success is warranted only by the united efforts of practice and theory, and the result of such combined work will be a real gain to science.

The microscope plays an important part in the examination of morbid new-growths, and I fully concur with Prof. Lücke

of Strassburg, in the desire that every practitioner should be acquainted with the minute structure of tumors, which would enable him to give a more correct diagnosis and prognosis than is the case at present. Very often we decide about the future of the patient through microscopical examination of tumors, either after extirpation or before it, when small parts of the tumor are cut out for diagnostic purposes.

We know that there exist a series of tumors, the so-called benign ones, which do not materially interfere with the health of the patient. Such tumors are either formations of connective tissue, with fully developed basis-substance in its four main varieties, viz.: myxomatous, fibrous, cartilaginous, or osseous, such as myxoma, fibroma, chondroma, and osteoma. Or the tumors represent imitations of fully developed tissues, arisen from the middle layer of the embryo, such as angioma, lipoma, neuroma, myoma; or, lastly, they are combinations of epithelial and connective tissue, such as papilloma and adenoma.

Another series of tumors, on the contrary, being called malignant, have a deleterious influence upon the constitution of the patient. They grow rapidly, are painful, liable to ulceration, recur very often after extirpation, and produce secondary tumors in internal organs. For the differentiation of these growths we are greatly indepted to R. Virchow. He has first cleared up the fact that some of these tumors are formations of connective tissue in its undeveloped, or embryonal, or medullary condition, for which he proposed the rather poor denomination "sarcoma;" while others are combinations of epithelium and connective tissue, the so-called cancer forms. A third variety of tumors exhibits intermediate stages between the two kinds, and they represent what is termed, a popular expression, suspicious tumors, such as myxo-, fibro-, chondro-, osteo-sarcoma, etc. These tumors, upon their first appearance, do not impair the constitution of the patient; but in turn, or after repeated extirpations, or rather trials of extirpation, become decidedly malignant.

The study of the minute anatomy of tumors, in its present condition is as yet far from being satisfactory. Still, if the

question should be raised, whether microscopy has advanced so far as to give a thorough decision of the benign, suspicious, or malignant nature of a tumor, the answer doubtless will be a hearty: Yes, it has.

There are but very few points worthy of consideration as to the nature of a tumor. The more of a basis-substance of the above description is present, the smaller, therefore, the amount of free protoplasmic bodies, the surer is it that the new growth is of a benign nature. On the contrary, the smaller the amount of basis-substance, the larger the relative number of protoplasmic bodies, the more certainly does the tumor belong to a malignant type. The very worst tumors, glioma, round-cell-sarcoma, and medullary cancer, exhibit a rather trifling share of fibrous connective tissue. The difference mentioned, namely, is true not only for sarcoma, but also for cancer. The more the connective tissue prevails in comparison with the epithelial formations, the less malignant in its course, the more we are entitled to term it a "Scirrhus;" while in the fast-growing and rapidly killing medullary cancers, the frame of connective tissue, bearing the bloodvessels is very small, and the epithelia are ill-developed, viz., remained in their medullary or embryonal condition.

Combinations of fully developed basis-substance, with partial retention of the embryonal character, are by no means rare; they involve what is termed the suspicious nature of the tumor. These tumors allow of a prognosis of recurrence after extirpation, or of a gradual change for the worse, when the surgeon, judging from the appearances to the naked eye, has not the slightest idea of the threatening danger. The inflammatory process in even benign tumors may mislead the microscopist in rather exceptional instances, and it is only by a thorough examination of different parts of a tumor that a correct decision as to its nature is justified. The presence of inflammatory elements within the connective tissue frame of cancer is well known to be decisive of its malignant nature, and the circumstance that such elements not rarely can be found on the surface of an extirpated cancer-tumor, indicates on the one hand that recurrence will rapidly ensue, on the other hand

that such elements play an important part in the new growth of epithelia, characteristic of cancer.

I have examined numerous tumors, both in small excised pieces for test, and after extirpation, and often had to contradict the views of the attending surgeon. I can not tell, of course, how far my diagnoses were correct in all instances; but so far as prognosis is concerned, I very rarely was mistaken. I would illustrate my assertion with only one case, this being the most recent one. Dr. Louis A. Duhring, of Philadelphia, exhibited at the meeting of the Amer. Dermatol. Association in Saratoga last August, a remarkable case of tumors of the skin on a lady. This lady had evidently a healthy constitution, and the tumors bore all clinical features of benign—nay, only inflammatory formations. A few weeks since the doctor sent me a number of sections of one of the tumors for microscopic examination. I found the characteristics of a fibro-sarcoma, formerly called recurrent fibroma, and though I had not seen the patient since August, and had not heard of her, I wrote to the doctor that the tumors, sooner or later, will interfere with the health of the lady, and, turning to the worse, exert their deleterious influence upon her constitution. The doctor several days ago wrote me a letter, stating that the health of the patient is failing more and more since she left Saratoga.

I now come to the last of my propositions, which is based entirely on my own discoveries, viz., the relation of single protoplasmic bodies to the constitution of the individual.

In 1873 I published the results of my researches on protoplasm in the Transactions of the Imp. Acad. of Sciences of Vienna, announcing that the protoplasm has a reticular structure. Each protoplasmic lump, in a certain stage of development, exhibits numerous conical threads, emanating from the nucleus, and inosculating with the neighboring granules of the protoplasm. All granules are connected with each other by extremely delicate threads, so much so that the granules must be considered as the thickened points of intersection of a network which traverses the mass of the protoplasm, and is in connection with a thin uniform layer, bound-

ing the whole lump. I declared that the nucleus, the granules, the uniting threads, and the inclosing shell, are formations of the living matter, while the substance filling the meshes and the vacuoles is a fluid, and as such devoid of life.

At that time I was quite alone in my assertions. Shortly afterwards J. J. Woodward, of Washington, published micro-photographic plates of cancer specimens, on which, wherever the protoplasm was in a right focus—unfortunately this is but exceptionally the case in micro-photographs—the network in its interior was plainly visible. The first good investigator, who corroborated my discoveries in every respect, and announced this publicly, was Dr. Louis Elsberg, of New York. To-day over a dozen of the best microscopists abroad, agree with me in the view of the reticular structure of the protoplasm, though a number of them have studied this in nuclei only. But a few have accepted the doctrine that the network itself is a formation of the living matter.

Living matter has two characteristic properties, viz., motion (change of shape, amœboid motion, and change of place, locomotion), and the capacity of producing its own kind (nutrition, growth and generation). Those properties are due to the network in the protoplasm also. We see the network changing its shape and place during the amœboid motions and the locomotions of the protoplasmic lump in an amœba, a colorless blood corpuscle or an isolated or connected protoplasmic body of any description. Recently L. Elsberg has discovered in my laboratory that also the colored blood-corpuscles exhibit the reticular structure of protoplasm after the colored substance, held in the meshes, is extracted by a dilute solution of bichromate of potash. The colored blood-corpuscles under these circumstances demonstrate slow, but distinct amœboid motion. The growth and new formation is observable on the granules of the living matter within the protoplasm during the growth of the whole body and in the inflammatory process, where the endogenous and exogenous new formation is based altogether upon the increase of the living matter.

The amount of living matter within a limited bulk of pro-

toplasm varies greatly in different individuals. It is obvious that what is called a healthy or vigorous constitution, is based upon a large amount of living matter in the body, the new growth of which in morbid processes is very lively; while a strumous or scrofulous or phthisical constitution must be caused by a relatively small amount of living matter, the new growth of which is scanty in morbid processes. In other words, a lump of protoplasm will exhibit coarse granulations, or it will be almost homogeneous looking under the microscope, owing to the large amount of living matter in strong individuals of good constitution, while the protoplasm taken from a person with weak or strumous constitution will be finely granular, as but little living matter is present in it.

Two years ago I had the pleasure of announcing first before this society that pus-corpucles show remarkable differences in their minute structure in different individuals. Those from otherwise healthy and strong persons are yellow, almost homogeneous or coarsely granular, I said, while those arisen from broken-down, weakened or strumous persons are pale, gray and finely granular. This fact has been made use of in hundreds of cases, when pus-corpuscles, mainly in urine, were brought by different physicians in my laboratory for examination, for telling whether the pus belongs to a good or a bad constitution, of course without any knowledge of the patients themselves. I was right in every instance; not one mistake has occurred.

About one year ago I announced before this Society that also the colorless blood-corpuscles demonstrate striking differences as to their minute structure, according to the general constitution. I said that the colorless blood-corpuscles are coarsely granular and slow in their amœboid motions under the microscope, if taken from healthy, vigorous, strong persons; on the contrary, they are pale gray, finely granular, viz., poorly provided with living matter, in broken down or phthisical individuals. I expressed my hopes that at some future time practical use might be made of these differences. To-day my hopes have turned, after three year's earnest study, into accomplished facts.

The method of examination of the blood for our purpose is extremely simple. We oil the edges of a thin covering glass on one side with a curled piece of paper, serving as a brush. Prick with a pointed pin the palmar surface of the thumb, near the wrist joint, this giving a good convex surface, and being least incommoded by the injury. Squeeze out a small drop of blood, the size of which has to be learned by some practice. Put the glass slide on the drop for transportation, and immediately cover up the specimen with the covering glass, the oiled edges looking toward the slide. Such a specimen holds the blood in a living condition at least one hour. It is not necessary to use the heated stage, because the colorless blood-corpuscles exhibit their structure in an ordinary, comfortable temperature of the room, nay sometimes show slight amœboid motions. The magnifying power should be at least 800 diameters, the lens to be used being best a one-tenth of an inch immersion. As a matter of course, it ought to be a first-class lens, such as manufactured by Hartnack and by Vérick in Paris, by Tolles in Boston, by Grunow in New York, and by a few other opticians, whose lenses I have not as yet sufficiently tested for direct recommendation. Considerable skill is required for such studies, which embrace first the knowledge of the structure of the protoplasm in general. A few months', nay, a few weeks' thorough study under the direction of a reliable teacher will suffice to enable every one to see what really can be seen in the protoplasm, and to entitle him to judge also of the differences. I never had difficulties in demonstrating the network of protoplasm to any one who was in earnest with his microscopical studies, and took them for more than play. After having obtained a certain practice, one is enabled to tell differences in the anatomy of the colorless blood-corpuscles with a power of 500 diameters only.

Several years ago I was first struck by the fact that the elements establishing the condition of catarrhal pneumonia and of tuberculosis, both acute and chronic, are decidedly pale and finely granular. Next I learned that pus and colorless blood-corpuscles of strong men are partly homoge-

neous, or at least coarsely granular. Then I followed these studies by examining the blood of different physicians who came to work in my laboratory (their number, since I establish the laboratory four years ago, exceeds three hundred), and who could give reliable histories of both their families and their own bodies. Thus I have arrived at a point of perfection, which allows me to tell the constitution of a person without knowing any thing of his former life.

Besides the differences in the structure of the colorless blood-corpuscles, as described above, valuable hints may be obtained from other circumstances. The number of colorless blood-corpuscles in a given drop of blood is surprisingly different in different persons; the better the constitution, the fewer are these bodies. A sleepless night, however, is sufficient to increase their number, which fact often enabled me to tell physicians, by examination of their blood, whether business is going slowly or lively, the latter inducing sleepless nights or repeated awakening by patients, or so-called nervousness.

Catarrhal processes, so-called colds, of any of the mucous membranes, lead to increase of the number of the colorless blood-corpuscles; a chronic condition of these processes is indicative of a poor constitution *per se*. The colored blood-corpuscles greatly vary in their yellow tinge in different persons; the paler this tinge is, the more readily we can tell pale looks of the face or chlorosis. The colored blood-corpuscles stick together in coin-like rows only when the plasma holds a larger amount of fibrin; in the blood of persons with a poor constitution, such rows do not occur; in individuals of moderate vigor, the rows temporarily may be missing—at other times present. In the blood of persons of good constitution, who had passed through severe ailments, I several times found both coarsely and finely granular colorless blood-corpuscles, just as in originally healthy persons, who by chronic diseases, become broken down.

In fact, the microscope reveals so much of the general health of a person, that more can be told by it in many instances than by the naked eye, or by physical examination.

Life insurance should be based upon microscopical examination, as well as on percussion and auscultation. Marriages should be allowed in doubtful cases, only upon the permit of a reliable microscopist. Last season a young physician asked me whether I believed in the marriage among kindred? He fell in love with his cousin, and so did the cousin with him. I examined his blood, and told him that he is a "nervous" man, passes sleepless nights, and has a moderately good constitution. The condition being suspected in the kindred lady, marriage was not advisable for fear that the offspring might degenerate. So great was his faith in my assertions, that he gave up the idea of marrying his cousin; offering her the last chance, viz., the examination of her blood. This beautiful girl came to my laboratory, and, very much to my surprise, I found upon examination of her blood a first-class constitution. The next day I told the gentleman, "You had better marry her."

As a matter of course, every particle of the organism, either in a normal or in a morbid condition, will exhibit characteristics as attributed to the colorless blood-corpuscles. The protoplasm is one uninterrupted mass throughout the body, and the living matter is connected from the top of the head to the heels, in what we call tissues. Several months ago Dr. Paul F. Mundè brought me a specimen of the size of a pea, which he said he found in a large amount of fluid blood vomited out half an hour before by a patient. After immediate examination of a section from the specimen, I told the doctor that his patient was a pale, emaciated, narrow-chested person, who had catarrhal pneumonia, which led by localized gangrene to sloughing of the piece of the lung, on which a broken blood-vessel was visible. I foretold, besides, that the patient will die within one year. I explained to the doctor and to Dr. L. Elsberg, who also was present in the laboratory, what led me to such a diagnosis and prognosis. There were visible alveoli of the lung, and both the walls of the alveoli and their calibers were crowded with inflammatory elements, coagulated fibrin being absent. These are symptoms of catarrhal pneumonia. On some parts clusters of micrococci

could be seen, characteristic of putrefaction—therefore gangrene of the tissue. The inflammatory elements looked very pale and finely granular, the evidence of a bad, phthisical constitution, and all these signs together allowed the diagnosis of a limited viability, hence the disastrous prognosis. The doctor told us that no physical symptoms could be found in the lungs justifying my diagnosis. Still, he admitted right away that the patient was a pale-looking, thin and narrow-chested young man, whose brother had been sent to Florida some time ago for chronic tuberculosis of the lungs. One week afterward the doctor came to tell me that the physical symptoms at present were so marked on the lungs, that the diagnosis of catarrhal pneumonia was evident. Seven weeks afterward the patient was dead.

The facts here laid before the medical profession, may convince even the most skeptical physician that microscopy is destined to play an important part in the science of medicine. Let us proceed in skillful, honest work, and we shall succeed in raising the standard of microscopy still higher, and make it not only a valuable, but rather an indispensable assistance to clinical work. Much more could and should be done in this country by the profession at large, than is done at present, for the perfection of that most interesting and useful science—the science of ourselves—Biology.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

LOWESVILLE, LINCOLN CO., N. C., Feb. 10, 1879.

Dr. E. S. Gaillard:

DEAR SIR:—In the following communication I don't propose to enter into any discussion as to the cause, pathology or symptoms of diphtheria, for all have been fully ventilated by abler hands than mine, but simply to give a plan of treatment that has with me yielded exceedingly good results, and

earnestly ask my professional brethren to give it a fair trial. A tar plaster to the throat.

℞. Hydrarg Sub. Mur., gr. iij
Ipecac et Opii, gr. ij
Ipecac Pulv., gr. j M.

Sig. Every three hours until a grass-green action is produced. (If the bowels fail to move two hours after the fourth dose ½ ounce of castor oil should be given).

℞. Potass Chloratis. (Sat. Sol.)

Sig. Tablespoonful every three hours continued throughout the disease.

℞. Quinia Sulph., gr. x

Sig. Every morning.

After the full action of the mercury shown by the green stool:

℞. Ammon Mur.,
Tr. Ferri Mur. a.a. ℥v.
Acid Muriatic, ℥j.
Aqua q. s., ℥iv. M.

Sig. Teaspoonful in wineglass of water, every six hours.

If the "patch" fails to disappear after the second day a few grains of dry calomel should be blown on it through a quill.

The above is of course for an adult. With children the Dover's Powders should be decreased much faster proportionately than the mercury. Yours respectfully,

R. A. McLean.

Mobile, Ala., January 28, 1879.

Dr. E. S. Gaillard:

Dear Sir:—In the last issue of the Richmond and Louisville Medical Journal, I notice an article headed "A Case of Median Perineal Lithotomy for Chronic Cystitis," by J. Cummings, M. D., of Austin, Texas.

The Doctor seems to be unaware that any like "operation has ever been performed for chronic cystitis, although it has been suggested that this proceeding had been recommended."

The facts are, the operation is by no means a new one; but, on the contrary, is an established proceeding in cases of cystitis which will not yield to ordinary medical treatment. Cystotomy—a better term than lithotomy, for it is the bladder, and not the stone which we cut—was first performed for "cystitis and rupture of the bladder," by Professor Willard Parker, of New York, on the 3d of January, 1846 (vide New York State Medical Society Transactions, 1867.)

Again, on 23d of November, 1850, Professor Parker ope rated at Bellevue Hospital on a case of chronic cystitis in the male. His object, as he stated, was to open a channel by which the urine could drain off as fast as secreted, and thus afford rest to the bladder, the first indication in the treatment of inflammation. His conception of the treatment was perfect, and there has been no advance made since in the therapeutics of the affection. For the notes of this case, see New York *Medical Journal*, July, 1851, Vol. 6.

The late Professor Paul F. Eve also published the history of several cases of cystitis, which he had relieved by the bilateral operation of cystotomy. The first was an operation done at Chatooga, Georgia, in November, 1865; case recovered. Second, an operation at Nashville, Tenn., December, 1868; successful. Third, another in St. Louis, Mo., January, 1869; cured. Fourth, a case operated on in Simpson county, Ky., May, 1869; likewise cured. See paper "Synopsis and Analysis of one hundred cases of Lithotomy and Lithotrity, &c., published in Transactions of American Medical Association for 1871, by Paul F. Eve, M. D.

In 1872 Thomas Addis Emmet, M. D., of New York, published in the February number of the *American Practitioner*, an interesting paper entitled "Chronic Cystitis in the Female," which details the history of quite a number of these cases, having been entirely relieved by vaginal cystotomy, and afterwards closing the fistula with the wire suture, as is done in the ordinary operation of vesico-vaginal fistula.

There are quite a number of like cases which have been similarly treated by different surgeons throughout this country, but at present it is unnecessary to add a long list of cases,

when enough have been given to prove it an established surgical proceeding; and also to rub off the gloss of something new in the field of genito-urinary science.

Very truly, C. H. MASTIN.

OWENSBORO, KY., Jan. 29, 1879.

Editor R. and L. Journal:

The American Medical Association and the State Medical Society unfortunately have each selected the 1st Tuesday in May, for their annual meetings, hence we find it will be best to hold our convention at Danville on the last Tuesday in April, and thus our members can attend the National Association at Atlanta, Ga., the following week. By changing the time for our meeting, prominent members of the profession from other states en route to Atlanta will have an opportunity of being with us at the ceremony of unveiling the McDowell monument. I wish you would make this announcement in your journal, and greatly oblige, yours very respectfully,

C. H. TODD,
Pres. Ky. State Med. Association.

CHEMISTRY AND PHARMACY,

"Diruit ædificat, mutat."—HOR.

FILTERING WATER.—Dr. Nolter, Assistant Professor of Hygiene at Netley Army School, has arrived at the following results as the conclusion of an elaborate series of experiments:

1. Filtration through sand is simply mechanical for the most part, and not to be depended on as a purifier.

2. Water may be purified by animal charcoal to a large extent; that its action is extremely rapid on decomposed organic matter; that fresh organic matter passes through unchanged; and that water should on no account be stored after filtration, as this matter subsequently decomposes, giving rise to low organisms. It is advisable not to leave the water

in contact with the animal charcoal for a lengthened period, as it again takes up impurities from the medium.

3. That spongy iron is undoubtedly the *best* filtering material. Its action is not so rapid as charcoal, but there is no danger in prolonging the contact with the water. As far as my experiments go, it is the only *safe* filtering medium we have at present. It appears to act on all organic matter, whether fresh or decomposed, whereas charcoal acts more as a dialyzer when colloidal substances are fresh and in a state of extreme dilution, and are certain to decompose after filtration.

One feature of filtering through charcoal must not be lost sight of—that charcoal becomes exhausted of its oxygen, and that foul gases held in solution by the water may replace it. Its action is limited, and it requires constant attention.

The carbon filters for ordinary purposes are coming into common use. They are very convenient for purifying water and for various other purposes, and may often be employed about a pharmacy, and will do good service. They are made, it is said, by taking 60 parts of coke, 20 of animal carbon, 10 of charcoal, and 10 of pipe clay. Asbestos may be used instead of clay. The ingredients are finely powdered, passed through a sieve, and thoroughly mixed while drying. They are then mixed with as much molasses as may be needed to form a plastic mass—about as much as the dry powder in bulk. This dough is well worked and shaped into cylinders, discs or plates. Other ingredients are sometimes used, but the intention in all cases is to have an extremely porous substance, of which carbon is the basis. Liquid pitch may take the place of molasses. When the mass has been wrought into the desired form and allowed to dry, it is burnt until it has become completely carbonized—that is to say, until all the combustible material has been consumed, leaving, as it were, only a skeleton form of animal carbon and clay, perfectly porous, to constitute the filter. The percolation is from without toward the interior, which is hollow, but is provided with an outlet for the filtered water. The bulk of the impurities is lodged on the outside, and, after a time, will choke up the pores and arrest the process. This

matter may be removed by scraping; or, what is easier and better, a few minutes' brisk boiling will restore the filter to its original clean condition.—*Druggists' Circular.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Index damnatur cum nocens absolvitus."

ART. I. *The Principles and Practice of Surgery, being a Treatise on Surgical Diseases and Injuries.* By D. HAYES AGNEW, M. D., L. L. D. Professor of Surgery in the Medical Department of the University of Pennsylvania. Profusely Illustrated. In two Volumes. Vol. I. J. B. Lippincott & Co., Philadelphia, 1878.

This is a most ponderous work. It exceeds in bulk any treatise on surgery hitherto published. The work is an encyclopedia of surgery and necessarily contains much that is valueless to an ordinary practitioner of surgery or a student of medicine. No work however large can contain the history of the literature of every surgical disease, as well as a description of the disease itself, its symptoms, treatment, etc., without being swelled to an inconvenient size. The ordinary inquirer does not want it. Those who make a specialty of surgery will seek in special treatises a fuller account than can be given in an ordinary text book. There are two ways in which a treatise upon surgery can be written. One, when a surgeon of great experience and talent, thoroughly acquainted with the literature of the subject, embodying the experience of others, forms in his own mind a system upon which he practices, and then writes out his views and observations for the benefit of others.

The other method consists in making a book upon surgery after the style of a dictionary where any of the sections or chapters could be transferred elsewhere, and be apparently as much at home as if written for their new situation. To our mind the first plan is far preferable to the second or encyclopedic style. We seem to hear the voice of the great surgeon,

as he describes the condition of the patient and gives the characteristics of the disease or injury from which he suffers. There have been many such works in the literature of surgery whose publication marks an era in its annals. We do not think this book, valuable as it undoubtedly is, belongs to this class. No one of Dr. Agnew's ability and experience could write so large a work without stating many interesting facts, and making many useful suggestions. He seems to have thoroughly gleaned the field of surgical literature and has compiled a vast number of references as well as tables relating to surgical accidents and diseases.

Dr. Agnew has abundant references to both ancient and contemporaneous surgical literature, but dates a great many of his observations from the "war of the rebellion," a phrase he repeatedly employs. By this expression the Dr. refers to the revolt of the negroes and the lower class of whites against the state authority and the established laws of the country about twenty years ago. The volumn is a book of about eleven hundred pages and commences with a short section on surgical diagnosis. The first chapter treats of inflammation and gives a full account of that process from the latest authorities, including an epitome of the history of its literature. The chapter terminates with an account of hospital mortification, which Dr. Agnew calls hospital gangrene. This is an injudicious arrangement, as according to Dr. Agnew, "the existence of a wound is necessary to its development," and the description of hospital gangrene should have been more properly placed after the section on wounds. The history of hospital mortification might have been omitted without decreasing the value of the book. The second chapter treats of wounds. Ignoring the old division into simple and compound, Dr. Agnew classifies them according to the nature of the vulnerating body which produces them into six varieties, viz:, incised, lacerated, contused, punctured, poisoned, and gunshot wounds. He then immediately proceeds to treat of hæmorrhage, and states that "abhorrence of blood is most wisely implanted in our humanity and exhibits the value set by God on human life." When he speaks of the control

of hæmorrhage, Dr. Agnew comes to the conclusion that he has satisfactorily demonstrated the transformation of the coagulum, clot or thrombus into an organized structure and its unification with the walls of the vessel. After considering the various methods of arresting hæmorrhage, such as compression, torsion, acupuncture, etc., Dr. Agnew comes to the actual cautery which he thinks is by no means an obsolete resource, but is of great value in wounds of deep-seated vessels, and where there is oozing of blood from numerous points. Finally the Dr. treats of the ligation of arteries, which in his opinion is the most satisfactory mode of arresting hæmorrhage. Formerly Dr. Agnew employed for ligatures well waxed hempen cords, but now he uses in all cases catgut antiseptically prepared and has never seen any reason to regret its use. There is then a section on the removal of foreign bodies from wounds, one on transfusion of blood, one on the approximation of wounds, and one on the after-treatment of wounds.

Dr. Agnew thinks that the antiseptic treatment of Professor Lister possesses advantages over all others, and that not to adopt it would be to withhold from the patient one of the most important resources of art. The complications of wounds are then described, after which the different classes of wounds, with their appropriate treatment, are fully illustrated. Chapter III. contains an account of the injuries of the head, face and neck. That portion relating to fractures of the skull is, in our opinion, the most valuable part of the book, and it is a pleasure to see that Dr. Agnew does not entertain a morbid dread of the trephine so usual with many surgeons. He also states that the danger of ligating veins has been overestimated, and in wounds of the neck implicating the jugulars, recommends their ligation. "Wounds of the chest and abdomen" occupy the fourth chapter. In penetrating wounds of the chest, the author advises if there is a clot in the wound that it should not be disturbed, otherwise exploration may be made with the finger or probe to detect foreign matters. He does not approve of hermetically sealing all chest wounds, but only those from which air and blood escape in small

quantities. In penetrating abdominal wounds, the author does not advise exploration or interference, unless the discharge of fœcal matter shows the intestine to be wounded. In wounds of the bladder the only treatment recommended is the retention of a catheter. Although in the section on the general treatment of wounds, the author favors the antiseptic method; singularly enough in wounds of the abdomen where that method has achieved its greatest triumphs, no especial mention is made of it. Chapter V. contains the wounds of the extremities, consists of only five pages, and is altogether unsatisfactory, the wounds of certain nerves and arteries only being noticed. Chapter VI. treats of the diseases of the abdomen, and contains a great variety of diseases, some of which are not usually considered as belonging to the abdomen. After enumerating the various methods of operating for hernia, Dr. Agnew states that it is a question of grave doubt if, in the present state of our knowledge, it is justifiable to resort to any of them.

Chapter VII. treats of injuries and diseases of blood-vessels, and is profusely illustrated with many excellent wood-cuts. In the treatment of aneurism by compression, Dr. Agnew prefers the digital, and rejects altogether the practice of injecting coagulating agents into the aneurismal sac. The elastic bandage he also considers of no value. The ligation of arteries occupies Chapter VIII., and is fully illustrated. Chapter IX. is on surgical dressings, which, however excellent of its kind, should have occupied a different place in the book. Injuries and diseases of the osseous system occupies the tenth and concluding chapter. Fractures and their treatment are given in detail, and much space is devoted to a table on ununited fractures. The plaster of Paris dressing is commended by the author in his general remarks, but when he comes to special fractures, he almost always recommends some other method. Dr. Agnew consigns splints for a fractured femur to the surgical museum, as a memento of the past, and seems to treat all cases of such fracture with the weight and pulley. He thinks that the mortality from operations for ununited fracture is far greater than is commonly

supposed, and that the simplest and least dangerous plan should be tried first. A section on diseases of bone, such as caries, necrosis, &c., completes the chapter, and concludes the book. A copious index is added to the volume. It is a volume creditable alike to the author and the publisher, and Philadelphia may well be proud that she contains two men—the one who could write Gross' System of Surgery, and the other Agnew's Treatise upon Surgical Diseases and Injuries.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

THE PLAGUE IN RUSSIA.—We are this week enabled to lay before our readers a translation of the first detailed official medical report which, we believe, has been made public by the Russian Government, of the very fatal disease that has lately appeared in the province of Astrakhan. Although the writer of the report hesitates to come to a conclusion on the precise nature of the disease in question, we fear that the description of the systoms he gives are explicable only on the assumption that the malady is true plague. The report is from the pen of Dr. Doppner, the principal medical officer of the Cossack troops in Astrakhan, and the sole survivor of the medical men who have had the opportunity of witnessing the disease from its earliest development to the present time. Dr. Doppner writes:

"At the beginning (O. S.) of last November several inhabitants of Vetlianka were attacked with fever. After several paroxysms, and at the end of seven or eight days, the lymphatic glands of the armpits became swollen. On receiving information of this occurrence of fever I visited Vetlianka on on November 18th (O. S., Nov. 30th N. S.), and found there eight sick people presenting the following symptoms: Moderate fever, enfeebling and intermittent; the patients still on foot, with appetite, sleep, and the organic functions unaf-

fected; abscesses, spontaneously formed and discharging much matter, of the lymphatic glands of the groin or of the armpits; duration of the malady from ten to twenty days. All these patients eventually recovered. In the month of May, 1877, I had observed systoms similar to these, and also ending in recovery of the patients, at the advanced post on Mount Caucasus, where five out of forty persons were seized with them.

"After the 27th of November, 1878 (9th December), a new disease appeared in Vetlianka which attacked numerous people, some of whom succumbed to it. I made a second visit to the place, and I found there twenty-three persons suffering as follows: Violent headache affecting the forehead and temples; pains in all the limbs; transient shivering preceded by burning heats in the body and the eyes; abdomen tense; liver enlarged; pulse 100 to 120. These symptoms continued for three or four days, and, in the more favorable cases were followed by perspiration and general enfeeblement, but in the greater number of the cases the symptoms recurred at the end of two or three days, and were followed by delirium, sleeplessness, restlessness, a temperature of 42° R., dryness of tongue, dejections very frequent and involuntary, urine scanty and reddish, and death occurred after the second, or more rarely after the third paroxysm, with convulsions and total prostration of the vital powers. The corpses rapidly became decomposed and cadaveric discoloration occurred twelve hours after death.

"From the 17th (29th) November to the 9th (21st) December, of 100 persons attacked 43 died and 14 recovered. After the 9th (21st) December the character of the malady became much more acute. The person attacked was suddenly seized with palpitations of the heart, irregularity of the pulse, vomiting, faintings, oppression of the chest, and spitting of clear, fluid blood; the aspect became pale, the expression apathetic, the eyes dull, and the pupils dilated. The patient lay for three or four hours in a state of absolute prostration, then a violent accession of fever with delirum followed, the urine was suppressed, and there was constipation.

"After the 10th (22nd) December to all these symptoms were added spots upon the body, of dimensions varying in size from a pea to a piece of ten copecks; the sick exhaled a peculiar odor, something like honey, and death was preceded by lethargy and collapse. The corpses became decomposed at the end of two or three hours. From the 9th (21st) Dec. to the 14th (26th) Dec., the number of patients continually increased, and finally reached one hundred.

"During my first visit to Vetlianka I saw only six persons suffering from intermittent or low (*debilitante*) fevers, in the course of which the lymphatic glands became swollen (Griesinger), and I reported accordingly. This form of disease, according to Griesinger, sometimes precedes maladies of a more serious nature, a statement confirmed by the events under consideration. At the time of my second visit to Vetlianka, and during the ten days I then passed there, in the midst of the epidemic, my observations showed me that the disease was a kind of inflammatory fever, and I reported in that sense.

"According to the statements of the assistant physicians who are under my direction, the disease which appeared on Nov. 27th (Dec. 9th) appeared when there were no longer any cases in Vetlianka of the disease presenting the symptoms I observed on Nov. 18th (30th). I admit, however, a close bond of connection between the first category of disease and the second. The swelling, inflammation, and suppuration of the lymphatic glands were the principal symptoms of the first phase of the epidemic. These symptoms were reproduced in a frightful degree during the second phase, causing death in from twelve hours to three days. I am disposed, therefore, to characterise this epidemic either as a very acute form of typhus, or as a peculiar kind of plague (*pestis indica*, Hirsch), or as a new disease of a nature intermediate between typhus and plague.

"Vetlianka is situated in the district of Jenotaiew, one hundred and ninety-four versts from Astrakhan, twenty versts from Nicolsky, and ten versts from Pricheba. It lies on the right hand of the Volga, in an open situation, at a consider-

able altitude above the level of the sea. The soil is clayey; the vegetation, wormwood and feather-grass, scanty. The stanitza has existed a century; it contains a population of about 1700 souls; the houses, all of wood, numbering 300. The buildings are of medium size, and uncleanly within. The cemetery is placed at one hundred sagenes distance to the west of the stanitza. The inhabitants are all engaged in fishing as their occupation; no other industry exists in the place. At the foot of the hill, near the stanitza, is a fishery, the property of a private individual, to which the attention of the Minister of the Interior has been drawn. Old inhabitants affirm that at the time when cholera prevailed in the district Vetlianka suffered more than neighboring localities. The mortality from contagious diseases, such as scarlet fever, measles, fevers, etc., is also always greater there. From 1859 to 1860 syphilis was widely spread in the stanitza; and in 1864 inflammatory fevers were prevalent.

"During the last epidemic (the epidemic under consideration,) from the end of November (O.S.) to the 14th (26th) December, the weather was moist, foggy; the temperature variable, alternating between 2° and 14° R.; winds were rare, but occasionally blowing softly from the south-west, and a fine rain fell at intervals. On the 12th (24th) Dec. there was snow, which quickly melted.

"During my stay in Vetlianka the disease prevailed chiefly in the north part of the stanitza. After visiting the sick, in company with Dr. Koch, on the 18th (30th) Nov., I administered internally quinine in large doses and chlorinated water, treating the affected glands, if suppurating, with compresses of carbolic acid; if not suppurated, with mercurial ointment. As the effects of this treatment appeared to be good, I left Vetlianka, together with Dr. Koch, at the end of four or five days.

"When the epidemic showed itself in a more acute form (or rather on the explosion of a new epidemic) I returned to the stanitza, where I found also Dr. Koch. I then began to separate the sick from the healthy, dividing the place in four parts. I also disinfected the houses, and superintended the

execution of articles 945-965 of the medical police regulations.

"The necessary remedies were employed to combat the disease. I prescribed especially salicylic acid, muriatic acid, quinine, etc., but every thing proved useless. Not a single patient recovered. All the medical men who gave assistance —namely, Dr. Koch and six of his assistants, died; the priest of the stanitza; the Cossacks employed in burying the dead, —in a word, all those who approached the persons attacked with the disease, although furnished with the means of preservation used in like circumstances. Very few escaped the plague.

"The impossibility of conquering the evil by physic has convinced me that practically it remains but to institute a rigorous service of quarantine, leaving aside for the moment possible discussions on the name and character of the epidemic. I reported in this sense to Colonel Pickhanow on the 11th (22nd) December. The *ataman* (*locum tenens*) has taken the necessary measures. I have not made any observations since the 14th (26th) December, in consequence of having become myself ill with fever and a nervous disorder."

Information from Astrakhan to the 23rd January states that the epidemic has, for the moment at least, disappeared from Vetlianka and neighboring districts. The death of another medical man (military), Dr. Gregoriew, is also reported. It is further stated that Dr. Krassovsky is giving attention to the state of the tanks on the banks of the Volga and in the houses in the infected district in which fish is salted. These would appear to be in a very offensive condition, and their destruction is recommended.

The German and Austro-Hungarian Goverments have been conferring together on the means to protect their respective territories from any extension of the plague from Russia. Acting on the assumption that the fatal epidemic in Astrakhan is true plague, it has been decided (so it is reported) to at once impose the strictest quarantine on arrivals from Russia or the frontier. Certain articles of merchandise are to be

prohibited from entering into Germany or Austro-Hungary, and all persons coming from the plague-stricken districts are to be subjected to a twenty days' quarantine on arrival at the frontier station communicating therewith. A medical commission is to be sent to Astrakhan to study the disease there. The North Railway, moreover, has determined to put a stop to direct traffic between Warsaw and Vienna by way of Granitza!—*Lancet.*

MEDICAL NEWS.

"Nulla dies sine linea."

There is an excellent opening for a practitioner of some six or seven years standing at Rockport, Ohio county, Ky. Address L. T. Reid, druggist at that place.———Prof. Binz finds that the active constituents of coffee possess a certain antagonism to the action of quinine. He also finds that the infusion of coffee or caffein in dietetic doses causes an increase rather than a decrease of the tissue changes. This conforms to the observations of Voit and Hoppe-Seyler.—*Clin Record.* ———Dr. Douglas (Trans. Detroit Med. and Library Association, January, 1879) related a case in which he removed fifty four ounces of pure pus from the pericardium, with the aspirator. The symptoms were very urgent, and the operation was followed by marked relief. The patient rapidly improved, and the operation was certainly indicated, and its success is very encouraging in similar cases.—*Clin. Record.* ———Dr. George Grey, of Denison, Texas, who distinguished himself by professional services rendered at Holly Springs during the late epidemic, committed suicide at New Orleans on February 15, by shooting himself through the head. No reason for the act is assigned.—*Med Record.*——— Dr. Forestier, of Lyons, reports two cases of poisoning in young infants brought up by hand, both of which were probably due to the employment of white vulanized rubber nipples. The symptoms were analogous to those of poisoning by the

sulphide of carbon, aud as that substance is employed in the vulcanization of the rubber, it was in all probability the cause of the accidents. One of the cases terminated fatally.—*Med. Record.*———Says Prof. Alonzo Clark; "As a matter of fact, two-thirds of patients sick with typhoid fever do better without than with alcoholic stimulation."———Dr. Luigi Ciniselli died last month, aged seventy-five years. He was many years chief surgeon of the hospital at Cremona, Italy. He gave great attention to and was an able advocate of the electrolytic treatment of aneurism. He was the author of many papers on this and other subjects bearing upon surgical practice.—*Med. Record.*———Dr. C. G. Comegys claims (*Cincinnati Lancet and Clinic*) that hypodermic injections of minims xxx. of sulphuric either (one night and morning, passing the needle a little posterior to the great trochanter) have *cured* sciatica in his and in others' hands.——The alleged origin of the stamp had a tinge of romance in it. It was thirty-seven years ago that Rowland Hill, while crossing a district in the North of England, arrived at the door of an inn where a postman had stopped to deliver a letter. A young girl came out to receive it; she turned it over in her hand and asked the price of postage. This was a large sum, and evidently the girl was poor, for the postman demanded a shilling. She sighed sadly, and said the letter was from her brother, but she had no money; so she returned the letter to the postman. Touched with pity, Mr. Hill paid the postage and gave the letter to the girl, who seemed very much embarrassed. Scarcely had the postman turned his back when the young inn-keeper's daughter confessed that it was a trick between her and her brother. Some signs on the envelope told her all she wanted to know, but the letter contained no writing. "We are both so poor," she added, "that we invented this mode of correspondence without paying for our letters." The traveler, continuing his road, asked himself if a system giving place to such frauds was not a vicious one. Before sunset Rowland had planned to organize the postal service on a new basis—with what success is known to the world.—*Scientific American.*

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

The Meeting of the Association of American Medical Colleges.—This body is soon to meet again, and in its anxiety to be really efficient, it has called to its aid a convention of all of the Medical Colleges of the country. Is it at all likely that such a convention can be procured? and can it have any legislative powers if it is successfully convened? One searches in vain for the necessity for such a convention. What can it do, which can not be more effectually done by the Association of Medical Colleges itself?

It can not be said that so far the Association has proved a success, but even the most sanguine must feel that the more cumbersome its working becomes, and the more complicated its relations, the less likelihood is there of it ever accomplishing any thing.

And yet so great is the need of improvement in the special line in which the Association proposes to work that all earnest men must still cherish the hope that the immediate future holds something better than failure in store for the College Association. Its chief object is the honorable and successful operation of the Colleges connected with it; to make them bona fide; to regulate matriculation; to surround graduation with the proper restrictions and to make the whole field of medical education broader and deeper and more valuable. These are objects to arouse the enthusaism of the least enthusiastic; to assure the co-operation of every college in the land, and yet the issue of this impending meeting is very doubtful, and the most sanguine can only assert that they hope for real, practical results.

The American Medical Association has virtually acknowledged its inability to deal with the great subject of medical education; local and state societies have shown much zeal in passing admirable resolutions and in making eloquent speeches on the subject, but this quite exhausted their resources, and nothing practical follows. All eyes are now turned to the

Association of American Medical Colleges and to that great consulting body, "The Convention of American Medical Colleges." They are the only hope left to the profession in America. They are the Lodi in the fight; the profession turns to them as did the Emperor to the charge of the National Guards, and wait in anxious suspense the result of the next meeting.

The call for the convention is published by the request of Drs. Davis and Connor in another column.

"Tasteless Quinine."—Dr. Larrabee claims such excellent results from the use of cinchonia, or "tasteless quinine," in the treatment of malarial disorders, that it is deemed important to call special attention to his article on that subject. It is to be hoped that it will prove equally as acceptable and potent in the hands of other practicioners. Its claims are so valuable and of such an extensive applicability that it is to be desired that others who have tried it will also contribute their experience, and aid in assigning to its proper status a remedy that promises such advantages. Dr. Larrabee's views coinciding so aptly with Dr. Null's, which appeared in the February issue, is certainly very encouraging. Some additional information can be obtained by referring to its advertisement in this journal.

The Vacant Chair of Materia Medica and Therapeutics, in the Jefferson Medical College, Philadelphia.—Among the most prominent candidates for this responsible position is that well-known and competent gentleman, Dr. Laurence Turnbull. He has for years made a special study of Materia Medica, Chemistry, Therapeutics and Pharmacy, and is highly accomplished in these branches, as well as being thoroughly versed in the other branches of his profession. He has the best wishes for his success of many warm and appreciative friends, and it is believed that the trustees could not do better than to elect him to the vacant chair.

Registration.—Louisville, Ky., March 1, 1879, to Mrs. E. S. Gaillard, a son, Marion.

RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—*The Importance of Treatment of the Naso-Pharyngeal Space, Tonsils, and Uvula, in Acute and Chronic Catarrh of the Middle Ear.* By LAWRENCE TURNBULL, M. D., Aural Surgeon to Jefferson College Hospital.

It is a well-recognized condition that affections of the nasal mucous membrane are readily propagated to the contiguous sinus, to the pharynx, middle ear, and by continuity of passage, along the Eustachian tube, the orifice of which is in close proximity with the outer posterior margin of the nasal passage. If we look downwards and inwards, this is best seen by a *rhinoscopic examination*,* which is accomplished by placing the patient as in laryngoscopy; the head is well thrown back, mouth open and tongue depressed, with a gag or strong metal or rubber spatula; then with a powerful, reflected light, from a large-sized concave mirror, secured on the forehead, so as to leave the hands free; the light is directed on the naso-pharyngeal space, either to the right or left. The tongue depressor is now introduced by the hand, and the tongue firmly depressed, but not against the teeth or too far back on the dorsum, else gagging will ensue. With the free hand, the mirrow † is gently warmed over the light, and before being introduced, see that it is not too hot by touching the skin of the face; it is then passed into the

* A Clinical Manual of the Diseases of the Ear, by Lawrence Turnbull, M. D., p. 252. "Rhinoscopy," Philadelphia, J. B. Lippincott & Co.

† Form of Mirrows, opl. cit., p. 256.

mouth, and guided back into the pharynx between the uvula, and the right or left palato-pharyngeal fold. Be careful not to touch with the mirrow the pharynx, or soft palate or uvula, and desire the patient to make the effort to breathe through the nose, else the uvula and soft palate will tend to adhere to the posterior surface of the hard palate, and cause occlusion of the naso-pharyngeal aperture. Carry the mirrow obliquely as far as possible, either to the left or the right, as you may desire; then gently depress it, and elevate the handle. By this careful, and at times, difficult manipulation, which requires both time and great patience, a vertical view of the lateral walls of the space above the palate can be secured, and this includes the palato-salpingeal fold covering the levator palati muscle, the Eustachian orifice, and the fossa of Rosenmüller. This portion should be carefully inspected, as in the great majority of cases, pharyngeal disease, when originating above the palate, is located between these two fossa; these glandular bodies bleed on being touched, and are described by "Meyer," of Copenhagen, as adenoid disease, but I think they are nothing but the ordinary closed glands, analogous to the tonsils in structure, and found thickened; this condition is also found to extend into the nose and turbinated bones. If the naso-pharyngeal catarrh has become chronic, the membrane is of a dark, flesh color, instead of a bright, light red, and is bathed with copious secretion; the turbinated bones are not of a pale, slate gray, but a dark red in color and swollen, and looking almost like a polypoid growth. If these bones have been long diseased, they cause an "otitis."

I have notes of more than one case where there has been occlusion of one side of the nose, and there are cases reported where both posterior nares have been closed. Young children, both boys and girls, are apt, from the irritation of cold bathing in salt water, to have the nares so swollen and thickened as to cause temporary occlusion and deafness as a result. The nose is best examined by the single-wire speculum, of Frænckel, of Berlin, which stretches open the alæ of the nose freely.

Atmospheric influences and injuries of this portion of the body produce disease of the ear, and in many instances deafness, which if not promptly treated, becomes chronic, and requires prolonged treatment. First we have nasal abscess, which may involve the whole nasal mucous membrane, which is in contact with the bone lined by periosteum, and affecting with it the orifices of the Eustachian tube, and the submucous cellular tissue, with subsequent burrowing of pus, followed by thickening and adhesions.

Another troublesome condition, which prevents the free access of air to the nose, causing the patients to breathe all the time by the mouth, and this dries up the normal secretion, is often the result of blows upon the nose in childhood and youth, from bat, ball and other missiles, driven with force.

A third and a more frequent form of disease of this cavity is the result of ordinary coryza, better known as cold in the head, arising from cold winds, and sometimes epidemic as "epizootic" or "influenza," which involves one or both nostrils in an acute inflammation, first producing dryness, followed by a free discharge of serous nature, passing into mucus or into pus, either discharge being more or less mixed with blood. This inflammation, in many instances, extends to the mucous membrane of both the frontal and maxillary sinus, and engorgement of the Eustachian tube by blood, and blocking up of the orifice with tenacious mucus results.

When coryza becomes chronic, it is termed nasal catarrh, and is always accompanied with a hypertrophic thickening of the mucous membrane of the pharynx, and that lining the turbinated bones. In the chronic inflammations, in addition there are found abrasions, ulcers, polyps or warty excrescences, extending to the orifice of the Eustachian tube, and sometimes entirely covering these openings. Again, if this diseased condition is of very long standing, the ulceration may extend to the turbinated bones, and as the result, necrosis and a most offensive discharge; this form is termed "ozena." This dreadful form of disease of the nasal passages and sinuses, is the result of continued irritation, which is increased by such diseases as small-pox and diphtheria; also, by such dia-

theses as the tubercular, cancerous, gouty, rheumatic and syphilitic.

In some of the more troublesome forms of relapsing pharyngitis, I can trace a history of diphtheria occurring some years back, of more or less severity. In the strumous, scrofulous or tuberculous child or adult, I find that history repeats itself in the mother, or perhaps in both father and mother. Thus in two cases now under my care—one a little girl of six and the other a young gentleman of twenty-two, the mother of the first and the father of the second patient had chronic catarrhal discharge from the nose and throat, and were both cured.

In an other class of cases, every member of a family has swelling of the tonsils, and in some of them cheesy inflammation of the crypts of this gland, to be quickly set up by sudden changes of temperature or slight exposure, or from errors in eating and drinking, producing gout in one instance, and rheumatism in another.

The cancerous affections of the throat are more rare, yet there are a few instances in which this disease involves the tonsils and other portions of the throat, and which require prompt removal in the early stage, before involving the Eustachian tube, etc.

ACUTE CATARRH.

Treatment: The old idea of the treatment of acute nasal catarrh was a hot drink, foot-bath, and being well covered up in bed, and the same holds good at the present day. To produce diaphoresis is the beginning and end of its successful treatment. My old preceptor, Dr. John K. Mitchell, always added to this treatment a teaspoonful of the old paregoric elixir in a wineglass of warm, sweetened water. After the action on the skin has taken place, the patient must be kept in the house for the next day, and drink slops for food, and use occasionally a pinch of a snuff, which has been found to work exceedingly well; its composition will be found below. Professor Niemeyer advises the use of a Russian bath. This is not always practicable, and the exposure in coming from

such a bath will do away with much of the benefit derived from it.

After attacks of nasal catarrh, the discharge from the nose being of an acrid nature, it will cause a variety of aptha, or what is known as fever blisters, which are both painful and disfiguring to the female; the upper lip should therefore be smeared with oxide of zinc ointment, and the blisters already formed should be touched with a solution of iodoform, in ether or glycerine, which aborts them very promptly.

In acute and sub-acute attacks of nasal catarrh, one of the most agreeable remedies is the following snuff, which is not painful like tannic acid or alum when it touches the irritated and swollen mucous membrane. Its composition is as follows:

℞ Morphiæ Hydo-chloridi, gr. ij;
Acaciæ Pulv., ℥ij;
Bismuth Subnitrats, ℥vj.
M. and ft. in Pulv. no i.

Signe—Use a pinch every six or twelve hours.

CHRONIC NASAL CATARRH.

In the chronic form of nasal or post-nasal catarrh, the first and most important matter is the removal of all scabs and secretions of an acrid character, so as to bring the remedies in contact with the swollen, abraded or ulcerated membrane. This is best accomplished by the use of warm solutions of the chloride of sodium, potassium or ammonium, thrown into the nose by the atomizer. If, instead of being moist and full of secretions, the parts are dry, the following applied warm will relieve it:

℞ Ammonii Chloridi, gr. iv.—xij;
Aquæ Destillatæ, ℥i. M.

Apply the spray to the nostrils, closing the mouth and giving the head an upward inclination, and let the patient breathe strongly upwards and inwards. If the disease has been caused by scarlet fever or diphtheria, a solution of chlorate of potassium should be substituted for chloride of ammonium, and if the secretion is white-of-egg-like in character, an occasional pinch of the following snuff will relieve it:

℞ Pulv. Cinchonæ Rubræ;
Pulv. Sacch. Alb., āā ℥i. M.

Signe—To be forcibly inspired twice a day.

Sometimes the powdered sugar had better be employed at first alone to diminish the irritation of the mucous membrane. When the catarrh is of a very chronic character, with loss of smell and offensive odor from the nose, and where great thickening has taken place, it is then that the inhalation of iodine and carbolic acid is of service. It can be used by having a tube filled at both ends with cotton, and in the middle a few grains of iodine and crystalized carbolic acid. Each end of the tube has a cork which is to be removed when inhaling, and the substances are vaporized by the hand being held around the tube.

In treating chronic nasal catarrh, the cachexia before referred to must always be attended to, and if the patient be anæmic, scrofulous, tuberculous or dyspeptic, these conditions of the system must be treated. Such remedies as dialyzed iron, quinine, salicylic acid, cod liver oil, with the hyposulphites and hypophosphites, are of benefit. Malt, and a most nourishing diet of milk, cream, chocolate, with rich broths and extract of beef may be needed. I have found the oleo-resin of cubebs a valuable remedy in its alterative effect on the naso-pharyngeal and pharyngeal mucous membrane. I give fifteen to twenty drops on a lump of sugar, three times a day. I have also employed the oil of cubebs with equal results, as in the following prescription:

℞ Ol. Cubebæ, ℥ij;
Syr. Acaciæ;
Syr. Aurantii Cort., āā ℥iss;
Aq. Flor. Aurantii, ℥viij. M.

S.—A teaspoonful twice a day in water. This should be employed for two weeks, and then intermitted for a week. Some authorities* prefer the cubebs in powder, but this is very disagreeable to the taste, and is apt to produce dyspeptic symptoms. Dr. Bard,† of Ohio, has good success in recurrent post-nasal catarrh, from the following:

Flor. Anthemis Nob., ℥ss. M.
℞ Pulv. Cubebæ, ℥i;

This is to be thoroughly mixed and put into a common

* Dr. Beverly Robinson, of New York.
† (Dr. Bard) Medical and Surgical Reporter, April 6, 1878.

tobacco pipe and smoked, puffing the smoke through the nostrils. It should be discontinued if a fresh attack of nasal catarrh sets in, and resumed as soon as the inflammatory symptoms subside.

I have employed iodoform in the etherial solution (1 to 10 or 12), with a brush, as first recommended by Professor Elsberg, of New York. I have also used a solution of the chloride of gold as a local application, in both sub-acute and chronic inflammation of the nasal fossa and pharynx.

In one or two cases of ulceration of this region I employed, when all other remedies had failed, the pure, moist crystals of chromic acid on a platinum wire, and in diphtheria nitric acid on a glass rod, with a most happy result in each case.

Tonsillitis or *Quinsy* is a variety of acute inflammation of the tonsils, which is common during the cold, damp weather of fall, winter and spring, and although very amenable to prompt antiphlogistic treatment, it will, at times, in certain constitutions before referred to, reach a high grade of inflammatory action, with heat, redness and swelling. In some of these cases it will involve every portion of the soft parts of the throat, extending to the sub-mucous connective tissue, and at times involving even the hard palate and maxillary bones. Resolution is brought about promptly; at other times nothing will prevent the formation of abscesses—first in one, then in the other tonsil. This will cause great pain and distress, and will require from one week to ten days before the abscess will discharge spontaneously. Free and deep incisions into the swollen gland will cause free bleeding, and afford prompt relief. When once the tonsils have been the seat of such an inflammation, there is almost always a return of the disease every season until the enlarged glands are removed by nature, by the formation of abscesses, or by the use of the knife.

Treatment: In an ordinary attack, the throat should be protected from the cold by a flannel bandage, an ordinary domestic gargle, a saline purgative, and rest in the house for a day or two. The physician or surgeon is rarely sent for until the disease has assumed a severe character, and attended

with pain, difficulty in deglutition, and with so much swelling that the parts can not be seen. There are two remedies which are, at this stage, often very efficacious; the first is the solid nitrate of silver, applied freely, and followed by a gargle of chlorate of potassium, until the slough separates. The second is the spray from a warm solution of sulphate of copper, twenty grains to an ounce of water, with ten drops of carbolic acid added. This is applied by means of the hand, or better, by the steam atomizer apparatus.

When the acute inflammation, to which we have referred, of the tonsil has disappeared, these glands will sometimes return to their normal size of health, but more frequently some inflammation remains to become chronic, and ready at any moment, from slight exposure, to cause swelling, difficulty of deglutition, and with deafness more or less marked.

These glands will also take on the ulcerative process, as seen in the strumous development of small patches in the inner fold and layers. There is a discharge from these patches of a glairy mucus, or muco-purulent fluid, or thick tenacious albuminous masses, with more or less odor. In other cases, in individuals of a rheumatic or gouty diathesis, there will be secreted small masses of the phosphates; or, as it is termed, tartar-like material, of a most offensive odor, which will be found encrusted on the teeth of such patients.

In the treatment of enlarged tonsils of children, it will be rarely necessary to remove them by an operation. Scarification, and the application of absorbent materials with astringents, is generally all that is needed. The enlargement and hypertrophy in the child will often disappear about the period of puberty. After the age of sixteen, my rule is in ear diseases, where the tonsils are enlarged and indurated, and where the membrane in the immediate vicinity has taken the same form of chronic inflammation, with thickening of the arches of the palate, discharge of mucus from clefts in the tonsils, or where any small points of ulceration exist, I employ excision of the tonsils always as a preliminary to treatment of chronic deafness, with the above conditions added. I am convinced of the utility of this procedure by an increased per-

centage of cures in relieving trouble in the throat, and in improving the hearing. A few illustrative cases will demonstrate this fact better than a long argument.

Case First.—Philip V. R., aged thirty-three years. Applied August 5, 1876, for relief from deafness, which interfered with his duties as a clergyman. He is stout and robust. He lives in Minnesota, performing the church work of three parishes, many miles apart, and besides teaching school. He is married, but no member of his family is deaf. At times he is nervous, but this is accounted for by my finding out he was an habitual smoker. His allowance is a pipe or two after breakfast, a cigar after dinner, and one or two more pipes full of tobacco after supper. In this connection I can not refrain from calling attention to the fact that the use of tobacco is a cause of functional disease of the ear. Dr. Richardson (Diseases of Modern Life), states that he has no doubt that tobacco produces a functional disease of the ear, similar to functional disease of the eye, from the same cause. The specific symptoms affecting the hearing are: first, those of confusion, with inability to appreciate distinct sounds, that are either very soft, or unusually loud. This inability gives rise to restlessness and uneasiness upon the part of the listener, who often asks questions with respect to articulate sounds, which by others present are perfectly and distinctly heard. After a short period there is a sudden, sharp ringing in the ears. This may occur during or after smoking. Sometimes, if attention be carefully paid to the subject, it may be discovered that some external noise, very slight in character, such as the ringing of a distant bell, or the whistling of the wind through a chink, or some far off musical mumur, has produced the sound that is heard with so much intensity. At other times it comes on apparently without any provocation. The man is reading, walking, eating, or is engaged in some amusement, when suddenly there darts through one or the other ear a sharp, shrill, drilling ring, which often seems to come from without, and lasts often for two or three minutes at a time. There is no actual pain during this phenomenon, but great annoyance. The ear is not deaf, and both ears are

rarely affected at the same moment. If the symptoms be very much prolonged, it may be attended with giddiness; but in the majority of cases, after running through a commencing, an intensified and a declining stage, it abruptly terminates.

To go on with our case, the duration of this deafness is six years for the right ear, and five for the left. The deafness is still getting worse. The patient has had several attacks of quinsy, but has not had an acute attack for one year. The tonsils were found to be enlarged and swollen on both sides. On the right, rising up so high as to be on a line with the orifice of the Eustachian tube, the left tonsil is not quite so swollen, but it has in it numerous cavities. Both glands are covered with a thick, tenacious mucus, which can only be removed by hawking. The membrane lining the pharynx and its muscles was of a dark, red color, and bathed in a copious secretion, extending up to the orifice of the Eustachian tube, and Rosenmüller's fossa. He has pain when pressure is applied to the tonsils. The physician under whose care he had been, had stated, after using the well-known general and local remedies, that his condition could be relieved, but not cured. The patient is distressed by humming noises in his ears; these noises are especially manifest when alone.

The meatus is normal, the canal has cerumen in it. The membrani tympani is opaque and sunken. The Eustachian tube is open but narrow, and contains mucus which is also found in the middle ear.

H. D. R. Ear. $\frac{\text{2 inches.}}{\text{30 feet watch.}}$ H. D. L. Ear. $\frac{\text{4 inches.}}{\text{30 feet.}}$

In the left nostril there is a filling up of the passage by an enlargement of the left turbinated bone, which is also changed in color, from gray to dark red. The patient has never been sick except a slight attack of intermittent fever, twelve years ago, and this has no bearing on his loss of hearing.

Diagnosis, chronic, aural catarrh, with disease of the naso-pharyngeal space and hypertrophy.

Treatment: Removal of the enlarged portion of both tonsils, washing away of the mucus, &c. Astringent applica-

tions and a gargle. A tonic of bromide of potassium and strychnia was used. The tobacco was stopped. To take away his taste for tobacco I gave him calamus or chamomile to chew, and the leaves of the mullein to smoke; Politzer's apparatus was also used.

Improvement began soon after the removal of the tonsils, and a week's rest of mind and body, with the subsequent use of phosphoric acid.

The hearing by the end of the week was doubled in one ear, and trebled in the other. His throat was better, and his tinnitus had lessened. Since his return home his improvement continued, with the exception of occasional relapses from exposure to cold.

Case Second.—September 24, 1878. Katie S., engaged as a saleswoman in a store, called on me because she finds she has deafness, which interferes with her duties. She is a native of Delaware, and her general health is not good; but she has no hereditary history of any disease, or of deafness. The patient has suffered very severely from small-pox, which has left its impression upon almost every part of the body.

Both ears are affected, chiefly the left, which has been troublesome for seven years; the right ear for two years. There is no pain in the ears, but there is singing and whistling in both. The case has been under the treatment of a physician for some months. The meatus of both sides is dry and free from cerumen. The right membrana tympani is opaque and sunken, with the malleus injected; the handle is twisted and narrow. The dermoid (external) layer sunken and in folds. The left M. T., not so much thickened as the right, no redness of the malleus until after inflation.

There is chronic naso-pharyngeal catarrh. The tonsils are enlarged, and are covered with small ulcerative enlargements, with muco-purulent deposits. The Eustachian tubes are open but narrow, and they contain mucus. The middle ear contains fluid. Hearing distance of left ear is feeble on contact with a thirty-feet watch. In the right ear the H. D. is $\frac{7 \text{ inches.}}{30 \text{ feet.}}$. A loud tone must be used in talking with the patient. She has had disease of the throat for some time, and this

trouble has been increased during the summer from sea-bathing. There is no hereditament.

Diagnosis, chronic naso-pharyngeal catarrh, with disease of the tonsils.

Treatment: Removal of parts of the tonsil that were enlarged and covered with points of ulceration. The apparatus of Dr. Rumbold was used with solution of bicarbonate of soda; subsequently carbolic acid and solution of permanganate of potassium were applied. This was continued each day until the surface began to look normal, and the abundant and abnormal secretion had disappeared. Then followed the various apparatus to relieve the Eustachian tube and middle ear, and to bring them back to a state of health. The treatment of the constitution was not overlooked. The following is a record of her improvement:

Sept. 27.—H. D. R. Ear.			$\frac{7\frac{1}{2} \text{ inches.}}{30 \text{ feet.}}$	H. D. L. Ear.		$\frac{\text{Close Contact.}}{30 \text{ feet.}}$
Oct. 4.	"	"	9 inches.	"	"	7½ inches.
Oct. 10.	"	"	10 inches.	"	"	8 inches.
Oct. 16.	"	"	13 inches.	"	"	9 inches.
Oct. 31.	"	"	17 inches.	"	"	10 inches.

The patient was discharged at her own request, and was to continue the treatment at her home.

Case Third.—September 25, 1878. A. E. C., aged twenty-seven. From Ohio, and has come here to be treated for deafness, of seven years' duration. The patient is single. She has but little hope of getting well; her general health is not good, although she is plump. The menstruation is irregular, the act taking place only four or five times during the year, and at its time there is much disturbance of the health. In this case there is a history of hereditary deafness in most of the members of her father's family. I will not tire the reader with all the details of this case, on account of the similarity to the above-mentioned case; it will be sufficient to state that the enlarged tonsils and pendulous uvula were excised. Means were taken to establish the normal menstrual discharge, and to restore the throat and pharynx to its healthy condition. Her hearing when the treatment began was R. ear H. D. was only on contact; in the left ear one-quarter of an inch,

with a twenty-feet watch. When she left for home after six weeks' daily treatment, she was able to hear in her right ear $\frac{4 \text{ inches}}{20 \text{ feet,}}$ and in the left $\frac{12}{20 \text{ feet,}}$ and her watch, a tiny watch, was heard for the first time for eight years. She was directed to continue the treatment, under her physician, at her home, full directions having been written for him.

Case Fourth.—This is one of catarrhal deafness, the result of nasal and pharyngeal inflammation, with an elongated uvula. Mrs. E. T. S., aged thirty-four, was sent to me by her physician, September 2, 1878. She is a housekeeper in Philadelphia. She is in good health and married, and has three children. Both ears are affected, but the right is, as she says, the most dull. The duration of her deafness is seven years. She has been troubled with abscesses, rheumatism and lumbago. The meatus of both ears is dry and narrow, from picking at them. The membrana tympani is opaque, and drawn inwards in both ears. The Eustachian tubes are open, but are dry and crackling, with a feeling of fullness when she attempts to inflate them. Hearing distance of right ear, $\frac{5\frac{1}{2} \text{ inches,}}{25 \text{ feet;}}$ hearing distance left ear, $\frac{7\frac{1}{2} \text{ inches,}}{25 \text{ feet.}}$ Discharge from the nose, which is increased on taking cold. Throat, pharynx and uvula inflamed and swollen, and the latter touching the tongue. Her mother, father, grandmother and grandfather, with two nieces, are more or less deaf. There is a constant rushing sound in her ear, and this noise is increased by lying on the left ear.

Treatment: Ointment of hydrarg, oxidum flav., to be applied to the meatus at night. Removal of the uvula, and the use of tannic acid as a gargle. Pills of cinchonidia, gr. ij., three times a day. She has attended the office once a week until December 29th, when the following is the report: Nose and throat are well. The noise, which has existed for seven years, has entirely disappeared. The hearing has improved in the right ear to seventeen inches, and in the left ear to twenty-six inches.

Some of my readers will, perhaps, think that the gain of a few inches, more or less of hearing power by a deaf person,

is not much of a success, and yet these few inches may be of the utmost importance. For instance, to a school-boy or girl, in hearing the teacher—or a lady, in shopping is able to do without a trumpet, the use of which is always disagreeable and painful to a sensitive person. The slight improvement of the ear in the deaf is as necessary as to give the blind the faintest glimmer of light, or sufficiently so that he may be able to go about by himself, or make himself able to read by the aid of the strongest glasses. No one considers it a disgrace to wear spectacles, but few are even willing to wear a hearing-trumpet.

Again, by treatment, a few inches of gain ot the hearing power, as tested by the watch, is not always a measure of the great improvement of the patient, for the voice has many tones, and the hearing is assisted by the use of the eyes and lips.

ART. II.—*Vesico-Vaginal Fistule, and Laceration of Perineum.* By CLAUDIUS H. MASTIN, M. D., L. L. D. (University Pennsylvania), Mobile, Ala.

As it is not of common occurrence to find both of these accidents resulting at the same time, and associated in the same individual, I have thought it would not prove wholly without interest to the profession, for me to place upon record the following case:

Mrs. C., a young married woman, of some twenty years of age, in general good health, although of delicate *physique*, came to this city from the interior of Alabama, to place herself under my care, with the hope of being relieved from a very distressing condition. She reached Mobile in the early days of February, 1878, and presented the following history, as written by her attending physician:

"Mrs. C. went in labor (her first) on Friday evening, the 4th of October, 1877. On the 6th the attending physician discovered that no urine had passed since the inception of labor; after several ineffectual efforts to use the catheter, I was sent for, and reached the house on the afternoon of Monday, the 7th inst. On examination, I found the head pre-

senting, and in first position; patient complained of much discomfort, on account of distention of bladder; this was easily and at once relieved, by the use of a flexible male catheter, No. 7. The head was now well in the inferior straight, and nothing seemed in the way of speedy delivery, except insufficient pain. Ergot was now given, in the usual doses, and kept up at intervals through the night, and a part of next day, without, as I could perceive, producing any effect whatever on the uterus.

"The pains were slight, irregular and annoying, and the patient exhausted. At 3 o'clock P. M. on the 8th, I gave her a full dose of morphia sulph., by the mouth, which had the effect of producing several hours sleep; from which she awoke refreshed, and took some nourishment; her *morale* was improved, and her pains became more regular. At 11 o'clock P. M. she became suddenly demoralized, nervous, and greatly alarmed for her own safety. It was not until now, that I could get the consent of friends to permit me to use the forceps, which I believed, from the first time I saw her, on the afternoon of Monday, the 9th inst., would be necessary to accomplish her safe delivery.

"Being placed under the influence of chloroform, by Dr. Webb, her attending physician, I applied the forceps (Hodge's), and with ease delivered the head; there was no difficulty attending the application of the forceps, and no violence done the soft parts by their use. I think the laceration of the perineum occurred after the forceps were removed, and during the passage of the shoulders. Whether the accident might have been prevented or not, I am unable to say; but I am inclined to believe it was unavoidable—due to the condition of the soft parts, and the unusual size of the child.

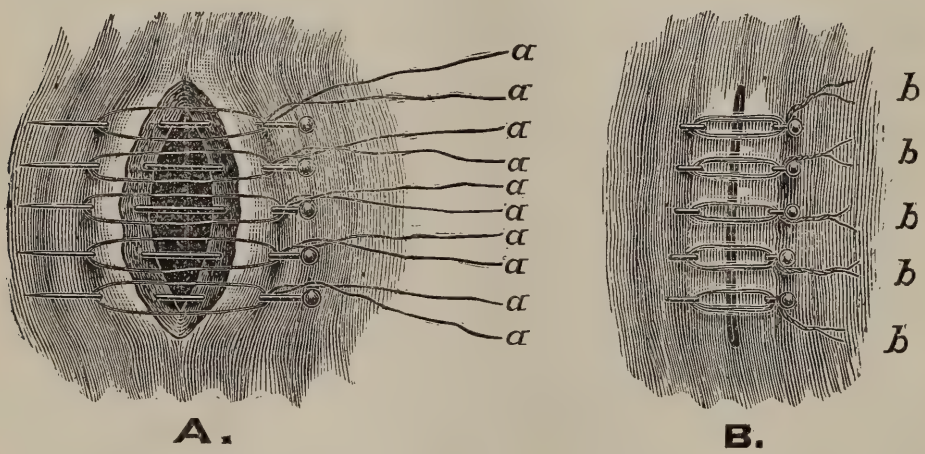
"The fistule from the bladder into vagina, I am satisfied, was the result of the long-continued pressure of the head against pubic bone. This only manifested itself several days after delivery; the urine had been regularly evacuated by the catheter for near a week before its exit through the vagina was discovered. Very truly, yours,

"MATTHEW TURNER, M. D.

"BLADON SPRINGS, ALABAMA."

Upon examining the patient I found a fistule of medium size, situated near the apex of the vesical-trigone; the soft parts, with the exception of some little granular erosion in the upper portion of the vagina, were healthy, and not unusual in appearance. Complicating this laceration, I found an extensive rent in the perineum, involving the entire sphincter ani muscle, and extending full half an inch up the recto-vaginal septum.

As she was in a good condition for an operation, and extremely anxious to have the same performed at as early a date as possible, I saw no reason why it should be delayed on account of any preliminary treatment which, under some circumstances, is deemed advisable. So, accordingly, on the next day, the 20th of February, I closed the fistule, after the method which is usual and original with myself, viz., with the *pin suture*. To more clearly illustrate the method, which may not be familiar to all, I give a diagram, showing the fistule



A. B.

pared, the pins in position, and circled by the constricting wires, ready to be tightened by the wire twister; figure A. The figure B shows the fistule closed, the wires twisted, and points of pins removed to prevent abrasion of the vaginal wall.

In using this form of suture, I have found it much easier to close the fistule perfectly, than by the simple wire of Dr. Sims, or the button suture of Bozeman. All that is necessary is to pare the edges evenly and smoothly, being careful

not to trespass upon the vesical edge; but from this to bevel off the sides to the width of at least three or more lines upon the vaginal wall. The pins, held by the head in an ordinary needle holder, are passed through the edges, just as the needles are in all other operations done for vaginal fistules. The advantage of the pin suture over any other, is, there is not more difficulty in passing them than there is in introducing the needle which is to carry the wire; then again, as the pins occupy the place which, in other operations is occupied by the wire, there is not the same difficulty in the way, as is caused by reversing the needle and drawing it out, so that the wire can be pulled through. Often times, in this part of the operation, the needle holes are torn through by dragging upon the wire. In using the pin there is no necessity to do more than insert it evenly and at a proper distance from the edges of the pared surface, being careful not to transfix the entire thickness of vaginal septum. These being in position, it only remains to co-aptate the edges, and with a loop of good, well-annealed wire, either of iron, silver or copper, thrown around the point of the pin, and with either the forceps or wire twister, hitch the twist behind the head of the pin, and then gently and gradually twist the same, until the parts are accurately closed, as shown in figure B. The ends of the wire are cut off with the scissors, and at the same time the points of pins are removed. It is well in large fistules to pass the outside pins near the angle of the fistule, and in closing the opening, see that the corners are well tucked in. The operation over, it only remains to place a soft sponge in the vagina, to press upon the fistule, and absorb any flow which may come from the vagina, and possibly irritate the parts. In the use of the sponge in this manner, I have on more than one occasion detected a leak on the day after the operation—shown by the stain upon the sponge—and have been enabled to refresh the little opening with the point of a tenotome; and then, by twisting the wire at that point a little tighter, have succeeded in closing a fistule, which, had any other form of suture been used, would have required a repetition of the operation. I always use, for the first three days,

the retained catheter; after that time I instruct the nurse to draw the urine at regular hours. The pins I remove on the third or fourth day, which is a much easier procedure than that of cutting the wire, and hunting about in the swollen tissues to find the end, so as to draw it out, as is always the case where we close the wound with the ordinary wire suture. In removing the pins, it is a matter of little or no trouble to catch the head with the ordinary dressing forceps, and, with a half turn and a gentle pull, it comes easily away; the wire, which encircled the pin remains in situ, serving to brace the parts for a few days longer, and, as it is not fastened in the tissues, it soon falls off and is washed out with the usual vaginal injection.

On the 13th of March I found the fistule so firmly united that I concluded to operate upon the laceration of perineum. This was done by paring off all the edges, even up into the rectal laceration, being careful to get a broad surface on the vaginal walls, so as to ensure a degree of thickness to the restored perineum. This being accomplished, the parts are firmly united by sutures of strong twine, deeply passed, so as to embrace fully the entire thickness of perineum, and the same firmly tied over bits of bougie or rolls of plaster, on either side of the perineum—the ordinary quill suture. The sutures are drawn sufficiently tight to sink the quills to a point which will slightly evert the edges of the wound, which are then neatly coaptated with fine silver wire interrupted sutures. The patient is put to bed and kept upon her side, with thighs pressed together, so as to prevent any separation of the coaptated surfaces. The parts are kept constantly wet with cloths saturated with a lead and opium wash; the bowels confined by the free use of opium, and the urine drawn at regular intervals with the male catheter. In using the catheter, I prefer to use a full-size, flexible male catheter, so as to avoid, by its length, any urine from dripping upon the wounded surfaces. I am careful to instruct the nurse to draw off the urine while the patient is upon her side, and in removing the instrument, to close its end with the finger, so as to prevent the urine escaping at the moment the catheter

leaves the urethra. After operations for lacerated perineums, I never use the retained catheter, for the simple reason that the urine always escapes along its sides, and this comes certainly in contact with the edges of the coaptated wound. The twine sutures are removed usually on the fourth or fifth day, but the interrupted silver sutures are left in place a few days longer, so as to prevent any separation of the edges. On the seventh or eighth day I usually order a saline cathartic, and precede its operation with a bland enema, so that any hardened fœces will be softened and washed out, thus preventing any strain upon the anal opening.

In former years, it has been my habit to cut the sphincter on either side of the coccyx, so as to set at rest the muscular action of its fibres during the period of reparation.

This operation I believe was the suggestion of Mr. Copeland, and has been popularized by Baker Brown; but I do not consider either this or the lateral incisions of Dieffenbach essential to the success of any operation for laceration of the perineum.

The patient in question had so far recovered as to be able to leave for home on the 20th of March, just one month from the date of the first operation.

The following letter, from her attending physician, will show the success of the operation:

"BLADON SPRINGS, ALA., February 16, 1879.

"*Dear Doctor:*

"Thinking it of some interest to you, I write to inform you that I delivered Mrs. C.———, of Clarke county, of a nine-pound baby—a girl—on the 11th of January last. Labor natural and easy; no laceration or bladder trouble. I regard the cure as complete and perfect. Mother and child well.

* * * * * * * *

"With much esteem, yours, truly,

"MATTHEW TURNER, M. D."

The object in reporting this case is to show the result of the special suture—*the pin*—and the short time between the two operations. I think it is generally considered proper to wait the expiration of eight or ten weeks after an operation

for vesico-vaginal fistule, before the laceration of perineum is interfered with. But in this instance the parties were anxious to return home, and hence I concluded to try the result of following one operation quickly upon the performance of the other; the sequel shows with what success.

ART. III.—*The Treatment of Spinal Curvature by Continuous Extension—A Modification of the Plaster-of-Paris Jacket.* By JOHN A. WYETH, M. D.

Extension, fixation and rest.—These are the cardinal principles in the treatment of lesions of the vertebral column. Add to these good hygiene and judicious medication, and we have the sum of all the indications.

Instrumentation can be successful only as it meets these demands; and when we speak of the *wheel crutch*, the Taylor *brace*, and the *Plaster-of-Paris Jacket*, we witness in each of these a decided advance in our progressive science.

Each of these has its merits and demerits. Each has its champions and advocates among some of our most earnest workers and practical surgeons.

It would be *well* for us—it would be *better* for humanity—if, in the liberal spirit of true progress, we could, regardless of individuality, lay aside our prejudices, meet in the broad field of scientific discussion, courteously compare our notes, and profit by that wisdom which is found in a multitude of council.

The plaster jacket was a great stride in the right direction. Its simplicity attracted universal attention, and it spread like wild-fire before the blasts of its enthusiastic advocates.

Some of us thought that we had found the *ne plus ultra* in the management of Pott's disease; that sufferers had now nothing more to do but be suspended by the arms and neck, enveloped in Plaster-of-Paris, and be cured.

But let us ask pointedly, has it fulfilled these expectations? Does it meet fully all the indications in Pott's disease? I believe it comes nearer it than any other method yet made known to the public, but it has failed at times; it has its faults, and these I shall try to point out, and hope to suggest the remedy.

In order to obtain the first great requisite—*extension*—by this method, the patient is suspended by the neck and arms, lifted well up from the floor, the lower portion of the body is the counter-extending force, the diseased surfaces are separated, and while in this position the trunk is locked in the plaster jacket.

If this *grip* of the jacket could be uniformly maintained, it would meet more fully than it does the indications. But any one experienced in its use will recognize this objection; it loses its firm hold in from seven to ten days after its applica tion, and hence loses its property of holding at rest and separating the diseased surfaces.

This results from two causes: first, the atrophy and yielding of the abdominal and thoracic structures under this abnormal pressure; second, the softening and relaxation of the plaster itself from the absorption of bodily moisture.

It follows of necessity, that the support having yielded, the upper portion of the body telescopes down upon the lower, the diseased structures are grinding in contact, and *the benefit obtained by extension before application is lost by the collapse which follows.*

Hence arises the necessity of removing the apparatus and re-applying it, in itself at times painful and annoying. So I have found it, notwithstanding I have been able to finish the dressing in ten minutes of suspension.

Again, pressure upon the protruding spine often excoriates or prevents the healing of a pre-existing sore, and although a *fenestra* is cut, it is objectionable, since the discharge from the ulcer gets beneath the dressing, causing an offensive odor and removal of the jacket.

Or a fragment of plaster, or foreign body dropping between the dressing and the skin, gives rise to excoriations and requires removal of the dressing and its re-application.*

The method to which I now ask your attention, obviates these various difficulties.

Without suspending my patient, the arms being held out

* In one of my cases I had to remove the *solid jacket* on account of several grains of corn having fallen down the patient's back, producing excoriations.

of the way by an assistant, outside of the tightly-fitting knit undershirt, I apply *two* jackets of the required thickness. The lower edge of the upper jacket is just above the diseased points, and extends upward to the arms. The upper edge of the inferior jacket is just below the seat of disease, and extends down over the hips (see figures 2 and 3). As the plaster bandages are "setting," I place three zinc plates, about two by four inches (perforated by numerous holes (see A,

FIG. 1.

figure 1), from opposite surfaces, so as to prevent them slipping, in each section of the jacket. To the center of the plate (at B) is securely riveted a flattened staple of iron. One of these is fastened over the spinal column above and below, one under each arm, and one directly underneath these over the hips. These are held securely in position by several turns of the plaster bandages, passed over them alternately above and below the *staples* which are left exposed. (See figure 2).

As soon as the jackets are firmly "set" the *extension* bars (represented in figure 2) can be applied.

Each bar consists of a shoulder at each end, and a solid section cut with cogs and grooves which telescopes into a hollow section, with a key for lengthening or shortening, and a "spring-catch" to hold it fixed at any point. It is the same mechanism that is used in Professor Sayre's knee-joint splint.

The shoulders are caught in the staples, riveted to the immovable plates, and the requisite extension is secured by means of the key.

Mr. Harz, of Reynders & Co., has, with creditable ingenuity, devised for me a lighter *extension-bar* (see figure 1), consisting simply of a male screw C, which works into a movable female screw D, which secures the same extension as the *bars*

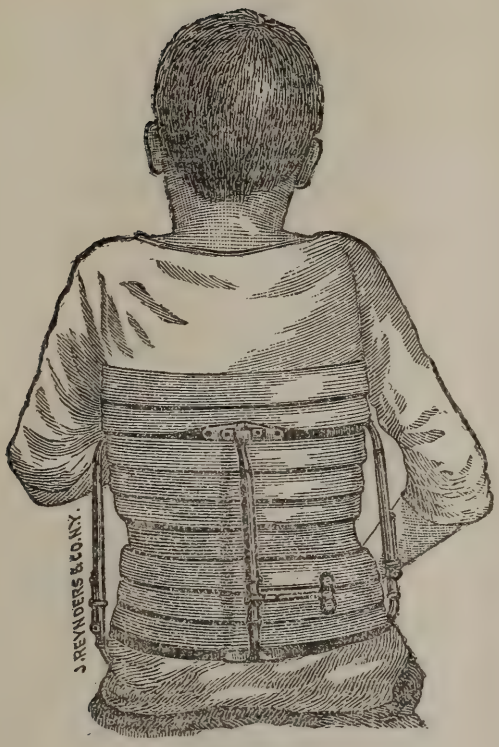


FIG. 2.

in figure 2. The key to this instrument is figured at G, and at E is a catch for locking.

The principle, the application and the mechanism of this method, is so simple that I deem any detailed explanation unnecessary.

In figure 2, the *double plaster jacket* with three extension bars in position is seen, and in figure 3 is a front view of the same.

The amount of extension is under the perfect control of the surgeon, and can be graduated to suit the comfort of the patient and the necessities of the disease. As the jackets yield, as they will under all circumstances to a greater or lesser extent, the extension is increased to meet the exigency, and the same jackets will last throughout the treatment. At night, or at any time while the patient is reclining—when there is not a demand for much support—the middle bar is removed, allowing the patient to rest comfortably on the back.

FIG. 3.

It will be seen that by my method the upper portion of the body rests upon the tripod of bars which are anchored, one over the sacrum and one over each hip, and that

the diseased spinal column is relieved from all pressure from above or laterally. If there exists a lateral curvature, one of the lateral bars can be extended more than the other, and the curvature corrected. If the curvature is antero-posterior with the concavity backward (lordosis) the posterior bar will demand extra extension, and if the convexity of the curve is backward, the two lateral bars will require extension at the expense of the posterior.

Around the portion of the body between the two jackets a dry unplastered roller is carried moderately tight, in order to retain any dressing on the sore (if this exist), and to equalize the pressure.

In figures 4 and 5, is represented a soft, buckskin-padded jacket, made by Mr. Harz, of Reynders & Co., which is used for the few weeks following the removal of the plaster jacket. The mechanism is the same, and it is used to guard against the accidents likely to occur to children liberated from the bondage of Pott's disease and surgical treatment. If Plaster-of-Paris can not be obtained, liquid glass, bandages immersed in mucilage, or the starch bandages will answer. Gypsum is best since it does not undergo any ferment in contact with bodily moisture, but the starch bandages are stronger and do not require to be put on so thick as the former. One quarter of an inch in thickness will usually suffice. The screws and plates can be made by any country blacksmith of ordinary ingenuity, or can be

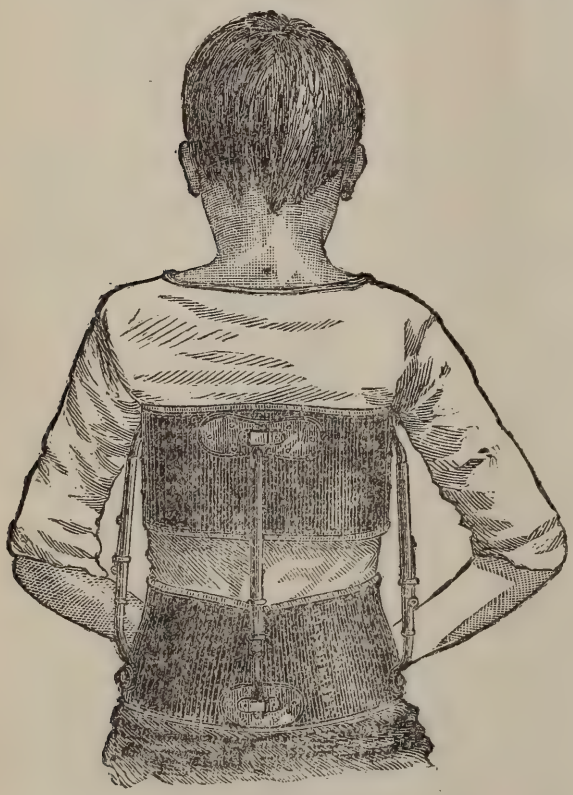


FIG. 4.

FIG. 5.

obtained from Reynders & Co., New York.

From my notes I take the following case, which is in every respect a critical test of the value of this method, since it was successfully tried under the worst possible conditions and after all other methods had been faithfully tried under conditions which should have insured a better chance of success. I asked the mother of the boy to give me the history in full up to the time he came under my care, and I give it condensed from her own description.

CASE.—"When 3½ years old, while sitting at the table, the child suddenly began screaming with pain in the back. He had received no fall or blow to our knowledge. The family physician was sent for, who said the child had problably caught cold, and ordered ice-water locally, and in two or three days the trouble ceased. Six months later the same symptoms recurred and with such severity the patient could not walk. The physician now suspected lesion of the spinal column, repeated the ice-water application, re-enforced by two leeches, with temporary relief. We noticed that at this time he walked a little one-sided and occasionally complained of pain in the side. A friend advised us to take him to the Forty-second-street hospital in New York, which we did. After a careful examination the trouble was pronounced hip-disease, and a Spanish fly blister was ordered. Not feeling satisfied with this treatment, we took the child to Dr. Taylor's Institute, where the disease was pronounced "Pott's Disease

of the Spine," and a brace was fitted and applied to him. Went there several times with him, but our means did not allow us to pay the sum they charged by the year, saying it would take probably three or four years to effect a cure, they referred us to a surgeon who would follow their plan of treatment exactly with the same instrument. He was there treated for several months, with no perceptible benefit, and the brace was worn for nearly four years in all, until in 1876 he was so much worse that he could not walk a block without sitting down to rest. At this time we removed to Binghampton, where we consulted Dr. Burr, who removed the brace, and applied the plaster-of-Paris jacket. This was worn about five months and was an improvement, as the child complained less of the pain, but as it of itself became painful and had caused an ulcer at the point of curvature it had to be removed, and the old brace was readjusted. He again grew worse, ran down in flesh, and become almost helpless. About this time a gentleman, whose son you had treated for this same disease, who happened to see the boy, sent us to consult you, and of his condition when you first saw him you can better judge than we."

I saw this boy at my office on April 3, 1878. He was so withered up by this exhausting disease that he was literally a living skeleton. Over the second and third lumbar vertebræ, there was a large protuberance projecting two or three inches beyond the normal surface, and spreading laterally several inches and this was covered with an ill-conditioned ulcer.

Above this, the back had sunk in, producing an exaggerated lordosis, and the abdomen stuck out in front as in pregnancy, and to render the case still more complicated there was a marked lateral curvature, the convexity to the right side. (The patient was right-handed.)

He was partially paralyzed in the lower extremities, could not possibly move directly to the front, but shuffled along sideways in any attempt at locomotion.

I immediately applied the *solid plaster jacket* as I had done before, and believing that a cure was certain I sent him home. In four weeks his parents returned with him, saying that for

the first week or two there was some improvement, but after that he had "gone back" again. The jacket had worked loose and in the course of these two weeks the upper portion of the body had *telescoped* down on the lower, and the jacket was a failure. I removed it, and immediately applied another just like it, and with some misgiving sent him home again. *In a few weeks they returned with the same story as before.*

I then recognized that *temporary extension*, the only extension the solid plaster jacket secured, was not sufficient, that it was only a step in the right direction, and that in this case I must use an extension which I could control and regulate with mathematical precision for a prolonged period, or this boy would inevitably die, and that very soon.

I then devised and put into execution the method so fully described in the foregoing pages.

As I had to be absent in Europe for the three months following the inauguration of this treatment, I wrote a letter to a talented young surgeon of Binghampton, Dr. D. G. Burr, explaining in full the management of the case.

I am deeply indebted to him for the skill and judgment he displayed in bringing the case to a successful issue, and it was at his suggestion that I have adopted the *perforated plate*, which is less likely to slip than the smooth one. In three months and a half the jackets were removed, and the patient was cured. Not only had ossification occurred at the point of lesion but the gradual and *continuous extension* had overcome both the curvatures.

On November 26th, nine weeks after the jackets were removed, Dr. Burr writes me: "I have been to see the boy, and find him as well and hearty as can be. He has gained in flesh, and is gaining rapidly, and I think the trouble has ceased;" and the parents wrote me a month later that "he seems to be well, and is going regularly to school." I have reported this case in detail, because I wished to show that the child was in a very critical condition, and under auspices more favorable in every respect, all other methods of treatment had after full and faithful trial in the hands of experts, proven unsuccessful.

In conclusion, I would advance these aphorisms:

First—That inflammation of the intervertebral substance, or caries of the vertebræ, is amenable to the same treatment as the same lesion in the ankle, knee, hip or other joints, and that *continuous extension*, regulated to suit the requirements of each case, in the one as in the other, enforces *fixation* and *rest*, and thus meets these great indications more fully than any other method.

Second—That the Darroch *wheel crutch* and other instruments, acting upon this same principle, creditable to inventive genius in a former generation, have served their respective careers of usefulness, been superseded by better methods, and have properly ceased to be.

Third—That among modern instruments, the apparatus originated by Dr. C. F. Taylor, has justly occupied a prominent position.

It may be made useful in the treatment of the lesions under consideration when taken in their incipiency, but that since *extension*, *fixation* and *rest* are the indications in *every stage* of this disease, it does not enforce these indications as does the *solid plaster jacket*, or the "double jacket with continuous extension."

I object to it, in that it *presses upon the seat of lesion;* in that *pressing upon a comparatively small portion of the body*, in order to catch a sufficiently firm hold, it is more *liable to set up local irritation at these points of pressure;* in that as an instrument it is expensive, as alike in the time required for permanent relief under its use, which is three or four years.

Fourth—That the "Solid Plaster-of-Paris Jacket" is one of the most creditable innovations in modern surgery, the introduction of which has placed the medical profession and humanity under lasting obligations to Dr. Joseph Bryan and Professor Lewis A. Sayre.

It is objectionable; (*a*) in that to apply it, it requires the *suspension* of the patient, a procedure accompanied with more or less annoyance and pain, and requiring a complicated apparatus.

(*b*) In that and chiefly, that it does not secure *continuous*

extension. It does not *hold* the *extension,* gained by *suspension before* its application, owing to shrinkage of the body from abnormal pressure, and yielding of the dressing from absorption of bodily moisture.

(*c*) In that it involves direct pressure upon the seat of disease, interfering more or less with the reparative process, and causes unnecessary trouble in the management of whatever ulceration may exist over the seat of disease or elsewhere.

(*d*) In that the lodging of foreign bodies beneath the jacket, requires its removal and re-adjustment.

Fifth—The "Double Plaster-of-Paris Jacket, with extension bars," which I have heretofore described, I believe to obviate these difficulties, since (*a*) it can be applied without suspension; (*b*) it involves pressure alone upon the sound structures, leaving the circulation free and unimpaired at the seat of lesion, where active repair is needed; it allows ready access to ulcerating surfaces when these exist; (*c*) foreign bodies can be removed without removing the dressing; (*d*) by means of the *extension bars* the *extension* and *fixation* can be daily regulated with mathematical precision, and can be constantly maintained without changing the dressing, no matter how much the jackets themselves may stretch or the tissues atrophy, and I hold that this *continuous extension* not only tends to cure the *disease* more rapidly, but at the same time, while the diseased structures are soft and yielding, will correct the *deformity* more thoroughly than any other method.*

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—*Clinical Lecture on the Pathology of Syphilis.*† By FESSENDEN N. OTIS, M. D.

GENTLEMEN:—In entering to-day upon the systematic clinical study of syphilis, it will be worth our while to review

* Dr. Wyeth kindly offers to procure the apparatus for any physician wishing to try it. Address 44 W. Twenty-seventh street, New York.

† Reported by P. Brynberg Porter, M. D., for Boston Medical and Surgical Journal.

briefly the teachings in regard to its history and nature, as presented to you somewhat in detail on a previous occasion. By citations from our most valued authorities, it was made plain that the disease was of very ancient origin, antedating the Christian era by many centuries. It was made equally evident that while syphilis had been the subject of much and careful study during a long period, great differences of opinion existed in regard to its nature and the manner in which it affected the human organism. By the earliest writers accepted as a punishment inflicted upon the human race through some offended mythological deity, it was treated by prayers and sacrifices. But as the medical profession grew more observant and less superstitious, it came to be considered the result of a venereal miasm, which might be modified—possibly cured—by medical measures. The miasmatic doctrine in its turn gave way to farther observation and closer study of the matter, until we found, at about the middle of the sixteenth century, that contact with a person suffering from syphilis, was held to be essential for the acquirement of this disease. From this fact it was assumed that a mysterious contagious element resided in the secretions of the syphilitic lesions, and thus the doctrine of a *virus* was first established. These lesions were, however, often so complicated with certain simple venereal diseases, that a very long period elapsed before the separation was effected. Even now it can scarcely be said that syphilis has been absolutely separated from the local disease called the chancroid. This matter, as you know, has been much discussed, for the last quarter of a century, under the title of the unity or duality of syphilis. A vast amount of clinical evidence has been adduced in favor of each; one party claiming that syphilis is the only parent of chancroid—the local venereal ulcer—and that, while the latter is *usually* a local disease, it may under certain circumstances acquire the power of communicating syphilis: the opposing party denying that power under all circumstances, and asserting the individual and unchangeable nature of each. Notwithstanding the profusion of clinical evidence always available in these discussions, this important question still figures as the "tug

of war" in all general syphilitic discussions. It may be well at this point to call your attention to the fact that clinical observations, which have been thus far almost solely relied upon for the solution of the disputed questions in regard to venereal diseases, are, as a rule, made under such peculiar embarrassments—moral, mental, physical and circumstantial—that the same apparent conditions falling under the notice of one observer often present phases and peculiarities in the experience of another that warrant entirely different conclusions. Hence it is that, notwithstanding syphilitic disease has been studied by numerous earnest, honest and competent observers, wide and sincere differences of opinion still exist in matters of great practical importance, aside from unity and duality. Thus, as has been seen, in regard to immediate and gradual infection in syphilis, the profession are about equally divided: one side claiming that the virus of syphilis infects the entire system at the moment of inoculation, while the other claims that the initial lesion is purely local for a time, and that the organism is gradually affected.

Also in regard to the question of hereditary influence: one party claiming that syphilis may be communicated to the embryo through the spermatozoön furnished by a syphilitic father; the other holding, by an equal amount of clinical evidence, that this is never the case, but that the male parent can only infect his offspring through the medium of the maternal influence, that is to say, by first infecting the mother.

Nor is it alone in regard to such points of doctrine as have been cited that unsettled questions confront the student of syphilitic disease. Deductions from clinical observations continue to give us the most varied and discordant views and opinions, even in regard to the nature of the disease and its mode of affecting the system. Thus among those figuring in the history of syphilis, previously narrated, we may recall the views of the more modern authorities. Erasmus Wilson,* in 1832, gave it as his opinion that when the poison of syphilis is once admitted into the system, it has a tendency to accumulate until the entire system is saturated with it. As soon as

* Page 7.

this point is reached, he says, "an outburst of fever occurs, which results in the elimination of the excess of the collected poison." Acton,† in 1860, in regard to syphilitic infection, rejects this and all other attempts at explanation. He says, in so many words: "Clinical observation teaches only the facts—the *modus operandi* remains undiscovered—the real explanation of the matter we do not know."

Virchow,‡ Vidal, Billroth, and Sigmund each give us different opinions based upon clinical observation, no one of which sheds any new light upon the practical features of the disease. Lancereaux, in 1869, expressed the opinion that "syphilis affects the system like alcohol, contained in the blood and acting upon the net-work of organs, in which it occasions at the same time with hyperæmia the development of the elements of new formation." As regards the manner of absorption of the virus, he says "it is a matter that ill bears discussion." Mr. Hutchinson, of London, in 1871, gave it as his opinion—the result of a large clinical experience—that syphilis was a "specific fever, like small-pox, measles, and scarlet fever." "Like them," says Mr. Hutchinson, "it has its stage of incubation, efflorescence, relapse and decline," but that the stages are more protracted; instead of counting its duration by days, we have to count by weeks or months.

We shall find it difficult to believe, however, that Mr. Hutchinson now attaches much importance to this alleged similarity between the specific eruptive fevers and syphilis when we recall, in the great discussion before the Hunterian Society of London, in 1874, the announcement of his conviction that "*mercury* is the true vital and physiological antidote of the syphilitic virus."

It is true at this time that, through clinical observations, syphilis has come now to be appreciated in its varied manifestations — that each of its lesions has been accurately studied and described; but clinical research has never solved the problem of its nature, or mode of development, or ex-

† Acton.—London Edition, 1860, pages 279–342.

‡ Otis.—Physiology of Syphilitic Infection, pages 8–9. New York Journal of Syphilography and Dermatology, July, 1871.

plained the connection between the different lesions and stages of syphilis. It has elucidated no mystery, nor led to any philosophical mode of treatment. Thus to-day, while recognized in its physical appearances, in its pathological results, while successfully combated in its protean developments, its position in medical literature is without scientific basis. It is yet unconnected with any ascertained physiological or pathological laws; explanations of its nature are but unsupported and contradictory opinions; methods of treatment purely experimental or empirical.

Hitherto we have studied but the external evidences of the disease, each manifestation presenting as a distinct and unexplained problem, and have treated it by medicines and by measures which experience and experiment have shown to be "good for syphilis." The advances in physiological science, the immense strides in knowledge of histology and pathology by means of the microscope during the last twenty years, have given insight into the causes of disease which clinical observation alone could never have effected. The discovery by Beale of the active principle of the cattle plague, smallpox, the vaccine, &c.—*the living animal disease germ*—led to the inference that a similar living principle constituted the virus of syphilis, and this Beale claimed in 1866. Verson and Beisiadecki, in 1869, were the first, by careful microscopical examinations, to recognize a peculiar and excessive accumulation of lymph or white blood cells as the first effect of the syphilitic process, and as a cause of the induration of the initial lesion. This matter seems to me so important in establishing a starting-point for the physiological explanation of syphilis, in its various phases, that I shall quote entire the results of Beisiadecki's observations on this point, as published in the Archives of the Academy of Sciences, of Vienna, in 1867. He says: "I have studied the Hunterian chancre in twenty specimens. The *induration* consists in a cell infiltration of the papillæ of the corium and subcutaneous connective tissue. The infiltrated cells are similar to those of dermatitis. They are round, have one or two nuclei, have a finely granular protoplasm, and separate the connective tissue equally.

These fibres retain the normal size—are not infiltrated as in dermatitis; they are apparently denser and more resistent to chemical reagents. But the arrangement of the cells differs from that in dermatitis. In those places where a rich cell proliferation has taken place, and in their vicinity still more, we find that the neighboring tissue of the vessels, as well as of their walls, are abundantly infiltrated with cells. The walls of the capillary vessels of the *papillæ* are thickened, have a shining and rigid appearance, and *inclose numerous nuclei which project even into the lumen of the vessels.* The adventitia of the arteries and veins is three times its normal thickness, *in consequence of the presence of numerous round, spindle-shaped, and branched cells.* The calibre of the vessels is diminished, but the vessels are permeable. If the induration still increases, we find in its vicinity *an abundant proliferation in the adventitia of the vessels, and subsequently the adjoining connective tissue cells enlarge and proliferate,* and anastomose with those situated in the adventitia by means of their processes.* The induration is explained" (however, he further remarks) "neither by the number of cells nor by their peculiar properties, but by the fact that while in *dermatitis* we have a proliferation of cells, and also a serous exudation which infiltrates the tissue cells and fibres; in the *induration* of syphilis we have a dry, anæmic tissue, resistant connective tissue fibres, considerably thickened walls of vessels. The dryness of the induration, which produces the hardness and also the anæmia, is caused by the *proliferation in the walls of the vessels*, which makes it difficult for the serum to leave the vessels, and also diminishes their calibre. And this," he says, "explains why the syphilitic induration breaks down into a molecular mass, and why resorption takes place so slowly. *This investigation,*" says Beisiadecki, "*might give us a clue* to the mode in which the organism is infected."

"In consequence of experiments on animals and man, we came to the conclusion that the blood capillaries are surrounded by perivascular spaces, and that the adventitia of the blood-vessels is in part to be regarded as belonging to the

* Italics my own.

lymphatic system. We have seen that the cells of the adventitia are in a condition of proliferation; that this proliferation is in the walls of vessels distant from the induration. We also know that when the induration continues, the larger lymphatic vessels appear as thick cords on the dorsum penis, and that the corresponding glands take part in the process. These cells, formed in the lymphatic system, can easily enter the lymph current and the blood, and become the carrier of the contagium." From this he concludes that "*the infection of the organism is not caused by absorption of fluid or broken-down substances in an unknown way*, but the progressing inflammation of the lymphatics and glands, the formation of cells in them, and the entrance of these cells into the lymph current as *living elements* may be regarded as the cause of the general infection."

Here, then, we have claimed, as a result of scientific investigation, the localized and abnormal proliferation and accumulation of germinal cells at the point of a syphilitic inoculation. If we are willing to accept the conclusions of Beale, that the germ of syphilis is a degraded, human germinal cell, capable of uniting with the normal human germinal elements and modifying their nature and behavior, we shall find a reasonable cause for this excessive localized cell accumulation. Beale says that this disease germ is a living amœboid cell, possessing, like the white corpuscle of the blood, the vital movement, and a like power of multiplication; "it is a molecule of living matter, derived by direct descent from the living matter of man's organism—living matter, which retains its life after the death of the organism in which it was produced; living matter, which has descended from the living matter of health, but which has acquired the property of retaining its life under new conditions; living matter destroyed with difficulty, and possessing such wonderful energy that it will grow and multiply when removed from its seat of development and transferred to another situation, provided only that it be furnished with suitable nutrient pabulum." *

* Disease Germs, their Nature and Origin, Lionel Beale, M. B., F. R. S., London, 1872, page 143, etc.

When it comes to be remembered that, through its degradation, the disease germ may be reduced in size even to $\frac{1}{100,000}$ of an inch or less in diameter, while its powers of movement and proliferation are still retained, and that the normal white blood corpuscle is only $\frac{1}{300}$ of an inch in diameter, it will be readily seen that this disease germ might easily, through contact, become incorporated with the white corpuscle, and proliferate in its substance; again, with increased rapidity, proliferating with it, be carried by it through the natural physiological channels; thus finding its way to the most distant points of the human economy, to develop or deteriorate in accordance with the effect produced by the introduction of this degraded element into its substance.

Thus far, through microscopical examinations, we have seen the apparent effect of the syphilitic element in producing an excessive proliferation of cells at the point of inoculation. Verson, Beisiadecki and Auspitz, have recognized a local result of this in an obstruction of the vessels of nutrition of the part, and this producing an anæmic condition, which finally results in a molecular necrosis of the indurated tissue.

Now this we observe as a clinical fact. Here, for instance, is a young man, Case I., who had a suspicious venereal connection about five weeks ago. He represents himself as having been in perfect health at the time. On the morning after the connection he noticed a slight abrasion just behind the fossa glandis. This, however, healed without treatment during the next twenty-four hours. A week since, on the site of that abrasion, he found a little bunch about the size of a pea, but without tenderness. His general health was still perfect.

We have here, apparently a classical initial lesion of syphilis, as determined by clinical observation. I would be glad to have you come forward and examine the physical characteristics of this lesion. You observe that, pressed between your thumb and finger, the papule is hard, almost like a nodule of cartilage; also, that it is movable under the skin. Its color is deeper than the surrounding tissue. There is no tenderness, but as you make tense the tissue over it thus,

you observe that the papule shows a pale, yellow color. Now let us examine the evidences which point to syphilis in this case. First, it has followed a suspicious venereal connection. The patient claims that this was his first and only connection, and this was five weeks since; second, that the abrasion consequent upon it immediately healed. We know, as a clinical fact, that the wound of an artificial inoculation of pure syphilitic material, such as may be found in the blood in active syphilis or the secretion of a mucous patch in the mouth, heals promptly, as if no such inoculation had taken place; third, that nearly four weeks after the healing of the abrasion, a hard nodule was found on its site. This period or interval of apparent rest, between the inoculation and recognition of an induration at that point, is a well-ascertained clinicial fact in the history of syphilis, and is known as the period of incubation. There is nothing to account for this nodule, except an abnormal cell accumulation, and no apparent cause, inflammatory or otherwise, for this accumulation, except the local proliferation of cells. If not caused by the syphilitic influence, as claimed by Beale, and confirmed by Verson, Auspitz and Beisiadecki, we have no explanation of it. These cells, according to the same authorities, are formed in the lymph spaces, the connection of which with the lymph vessels would, if accepting their views, lead us to look for further evidences of the disease in the line of the lymphatic system, rather than in the blood vascular system.*

The nutritive fluids exuded by the blood-vessels into the tissues are said to be in constant movement, and that too in a direction towards the lymphatic vessels; through which the excess over and above the necessities of growth and repair is carried back into the general blood current through the subclavian veins. This tissue-fluid, or lymph current, then would serve to carry the germ of syphilitic disease from the surface of inoculation towards and into a lymphatic, the nearest lym-

* Sudoriparous and Lymphatic Systems, by Robert Willis, London, 1867. The Lymphatic System, by Professor Recklinghausen. Strecker's Human and Comparative Histology, Sydenham Ed., vol, i., page 267.

phatic vessel. Movement through the lymph spaces is said to be retarded by a coagulation of the tissue-fluid from slight irritations, while this retardation is most favorable to cell proliferation. Here then, we find sufficient reason for detention of the infective process at the point of inoculation for a period greater or less. In many instances of short incubation, or interval between the date of inoculation and the occurrence of characteristic gland enlargement which I have seen, in the very great majority of cases the initial lesion has been near the frænum preputialis; a point where, according to modern histologists,† lymphatic vessels come nearest to the surface. In a case quoted in my article on the Physiology of Syphilitic Infection, published in the *Journal of Syphilography* in July, 1871, it was shown that the syphilitic inoculation was through a punctured wound in the finger, and that axillary enlargement followed within twenty-four hours, and general constitutional infection within six weeks, from that time.

We have then a so-called period of incubation of about three weeks, in the presenting case. This is claimed as the result of extended clinical observation to be about the average, although cases are recorded of intervals as brief as twenty-four hours, and as long as seventy days. Once a characteristic induration is observed, however, it is rare not to find lymphatic glands in nearest connection with it also indurated and enlarged. Examination in this case shows this enlargement to have occurred. Here we find them in both inguinal regions, as large as a buckshot, hard, movable and insensitive; as I press upon them the patient makes no sign or expression of pain. Recent painless gland enlargement is strong clinical evidence of the presence of syphilis; taken as here, in connection with an indurated nodule, appearing three to four weeks after a suspicious venereal connection, renders it exceedingly probable that the trouble is syphilitic. This view is also confirmed by the possibility of accounting for this physical manifestation through the view of abnormal cell proliferation set up by a syphilitic disease germ.

Case II.—This case, which you may designate as W. G.,

† Ballieff, etc.

presents another form of local lesion, also on the reflection of the mucous membrane of the prepuce, where, by the way, venereal accidents are most common. His history is as follows: First, an impure connection, or rather several, occurring during a period of three or four weeks. Naturally dating from the last, he states that three or four days after he noticed an abrasion which he supposed to be a simple chafe. In this opinion a medical gentleman whom he consulted coincided, and gave him an astringent lotion to apply. The trouble, however, slowly increased. The lesion was cauterized without benefit, and has since been treated with various lotions. Here you see a raw surface about the size of a three cent piece, lying, as the touch at once reveals, on an indurated base. There is no apparent loss of tissue; on the contrary, the part is elevated above the healthy surrounding structure. There is no evidence of suppurative action. The scanty secretion which moistens the surface of this lesion is serous rather than purulent, showing under the microscope chiefly epithelial scales instead of pus corpuscles. This is evidently an initial lesion of syphilis, differing from the former case in that the cell infiltration has here involved the more superficial layers of its covering, no longer movable over the induration, but broken down from what Beisiadecki has called *anæmia* of the tissue, but which Virchow has called a *necrobiosis*.

Here, also, we find enlarged and indurated inguinal glands on either side, and also a distinctly knotted cord, movable under the finger, about the size of a goose quill, running back from the induration, just underneath the integument of the dorsum penis, until it is lost in the tissues near the right crus penis. This is an enlarged and indurated lymphatic vessel, evidently connecting the initial induration with the nearest lymphatic gland. It is not unfrequently found if carefully looked for, and would seem to clear up any possible doubt as to the mode of connection between the trouble at the point of inoculation and the inguinal gland enlargements, and shows that these gland enlargements are not caused by any reaction from a general constitutional infection, but are evidences of cell accumulation from appreciable causes, and through recog-

nizable physiological channels. At our next session I hope to be able to present other forms of the initial lesion of syphilis, and to show as in the two cases brought before you today, that variations in form are chiefly due to differences in the locality and extent of cell accumulation; to show also that syphilis is, *per se*, neither inflammatory nor destructive, but consists, primarily, in a process of cell growth and accumulation, and thus quite opposed in its nature and action to the venereal lesion called the chancroid.

ABSTRACT DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."

CONDUCTED BY EDWARD MILLER, M. D., LOUISVILLE, KY.

SYPHILIS IN RELATION TO MARRIAGE. By Dr. ALFRED FOURNIER, Hospital St. Louis, Paris.—The question whether a man who has contracted syphilis may marry, is one the physician is frequently asked, and one which he can not avoid. If the answer be "No," it involves celibacy and the irregularities resulting therefrom. If the answer be "Yes," there may result equally disastrous consequences. Syphilis must not be considered an insurmountable obstacle to marriage, for there are cases in which the disease has not been communicated, either to the wife or the children. The answer then is "Yes," under certain conditions. Syphilis is dangerous in three ways: First, to the wife; second, to the child; third, to the family relation. It is rare that the wife escapes the contagion of secondary syphilis, and it may even be communicated to her through conception. Besides the danger to the wife, even should she escape, syphilis involves the child in danger. The child may die before its birth, or come into the world unfit to live. In the third place, syphilis is dangerous to the family relation. A man with uncured syphilis has contracted a debt which he must inevitably pay. He can not honestly marry. If he marry and get children, and then falls sick and can not work to support them, he commits an act of

injustice to the community. The conditions where marriage is morally permissible to one who has contracted syphilis, are five: First, absence of actual manifestations; second, advanced age of the disease; third, a period of immunity since the last outbreak; fourth, a non-menacing character of the disease; fifth, adequate specific treatment. As to the first, it might seem superfluous to insist upon, yet men have asked the question, and some have even married with a chancre. The second depends upon the fact that the fresher, the younger the attack of syphilis, the greater is the liability to accident from it. By the third is meant an absolute immunity for a certain length of time. This marks the subsidence of the acute stage and shows the effect of treatment. The fourth is a most imporant consideration. When syphilis yields rapidly to treatment, it is a most favorable sign. Finally, the individual who has contracted syphilis is dangerous and must be treated. Treatment diminishes its contagiousness and hereditary transmissibility. The precise time when a previously syphilitic person may marry is hard to determine, and must be considered with due estimation of the sort of treatment employed and its effect, but the minimum time should be three or four years. By dealing conscientiously with those who seek advice in this matter, the physician will execute an office salutary to the state and of the greatest benefit to his fellowman.—*Philadelphia Medical Times.*

The Prevention of Disease by Systematic Exercise. By E. T. Tibbits, M. D.—Dr. Tibbits thinks that many diseases arise directly or indirectly from the immoderate gratification of the appetites, or from some form of selfishness, and comes to the conclusion that such diseases could, in a great measure, be prevented by a more frequent and thorough exercise of the inhibitory powers of the will. He believes that systematic exercise of the will materially increases and strengthens its power. Dr. Tibbits also gives the following reasons for believing that the growth and development of muscle has a connection with a high moral tone: First, emotion is usually accompanied by certain physical manifestations which are,

to some extent, under the control of the will. Co-existent with the mental state, certain glandular and other effects are produced. It is possible, by exercising an inhibitory power over the muscles, to repress the violence of the emotion. By systematic exercise the muscles become developed, more powerful, act more readily, and thus lead to a more efficient control of the feelings. At the command of the will the muscles are kept at rest, glandular and other effects are less marked and the emotion gradually dies away. Second, the muscular condition of one determined to execute his plans, is one of contraction. Third, muscular exercise produces power, and the readiness to act in obedience to a wish must engender confidence. This confidence in the ability to act is a mental process, springing out of physical strength. Fourth, systematic exercises assist in the control of the feelings and appetites. The energy thus expended can not escape in the gratification of those passions, and if habitual energy is disposed of by the muscular system, a habit will soon be formed in this regard. In connection with these physical exercises, mental and moral ones should not be neglected, and as the child becomes capable of understanding them, moral and physiological laws should be presented to him. The education should be of the heart, of the mind and of the body, through the whole of life, and life so spent would be increased in length and efficiency.—*The Lancet.*

Post-partum Hæmorrhage, and a Mode of Treatment not Generally Known. By G. de Gorrequer Griffith, L. R. C. P.—Dr. Griffith relates that he was called in to attend a lady in labor with her third child. She was strongly built, bright, florid complexion, and brave-hearted, having no fear for herself in labor. The child was born naturally, but rather quickly, the secundines came away easily and the uterus contracted nicely. Dr.Griffith was getting the binder ready, when he observed that she became white and excessively faint, she did not speak or utter a cry, a heavy sigh escaped her lips, and she became apparently lifeless. Suspecting hæmorrhage, he laid his left hand on the abdomen in

order to grasp the uterus, while he raised the clothes with the right. A stream of blood was pouring from the vagina. At once, without letting go his grasp of the womb, Dr. Griffith turned the patient on her back, and when she was in this position he embraced the uterus with both hands, making it contract somewhat and moderating, though not checking the flow of blood. The patient was rapidly sinking, when the action of the aorta striking forcibly against the Doctor's hands suggested the application of pressure to it. Accordingly he buried his hands in the abdomen and worked his fingers among the intestines, till he could encircle the aorta; this done, the hæmorrhage ceased at once. Dr. Griffith maintained the compression till he found that the bleeding had ceased, that the uterus had contracted, and that the color had come back to his patient's face. In similar cases Dr. Griffith has always put the same practice into execution. Where it is not practicable, he grasps the uterus firmly, and by means of it, compresses the artery against the back.—*The Obstetrical Journal of Great Britain.*

Treatment of Ingrown Toenail. By Charles T. Hunter, M. D.—Of all the minor surgical affections, there are few which occasion greater annoyance to the patient or surgeon than the disease mis-called ingrowing toenail. The common seat of the disease is the outer edge of the nail of the great toe, although the smaller toes do not always escape. It is usually caused by wearing pointed shoes or high-heeled shoes, too short for the feet. Injuries of the toe in the vicinity of the nail, and the habit of cutting off the corners of the nail close to the quick, also favor the development of the disease. It is simply an unhealthy ulcer of the toe, involving the nail-fold and the matrix, in which the nail acts as a foreign body, and keeps up inflammatory action. The common method for a radical cure, since the time of Celsus, consists in the destruction in whole or in part of the nail and matrix. This heroic plan of treatment is not, however, always successful, and Dr. Hunter has had more gratifying success from the simple plan of Dr. John Neil than any other.

The first step in Dr. Neil's method consists in cutting or scraping a longitudinal groove in the nail, from its root to its free end, in order that its edge may be more easily raised from the ulcer. The surface being then cleansed and dried, collodion is to be painted over the granulations with a camel's hair pencil. As soon as the granulations are covered with a film, from the evaporation of the ether of the collodion, cotton in small quantities is to be gently pressed well under the edge of the nail. The ordinary probe of the pocket-case will not answer for this purpose, as it is too thick. The toenail probe of Professor Neil is simply a round piece of polished steel, about four inches in length, and the size of a No. 16 knitting-needle, with one end flattened. The half of a No. 16 knitting-needle, with one end hammered flat and sufficiently thin with the sharp angles rounded off, serves the purpose admirably. Dr. Hunter has the other end also flattened and curved on the flat. With the straight end cotton can be readily pressed under the free end of the nail; with the curved end it can be interposed between the incurved edge of the nail and the nail-fold. When sufficient cotton has been introduced beneath the nail to keep its edge separated from the soft parts, a small roll is to be placed between the outer margin of the nail and the contiguous nail-fold, after which collodion is to be freely brushed over the diseased parts and the dressing. To complete the dressing, a narrow strip of adhesive plaster is carried from the nail over the swollen nail-fold, and then wrapped two or three times around the toe. This entire dressing need not be changed oftener than once a week, or thrice in two weeks. When exuberant granulations cover a portion of the nail, as a preliminary measure, collodion should be applied for a few days. One or two renewals of the dressing is all that is required in mild cases. The more severe from four to six weeks. Although painful on its first application, the renewal of the dressing is comparatively free from pain, and the treatment does not confine the patient to his room, nor prevent him from following his usual occupation.—*Philadelphia Medical Times.*

HEMIANÆSTHESIA AND ITS CURE. By SAMUEL WILKS, M. D., F. R. S.—The subject of hysterical anæsthesia and its cure, after the application of metals, seems to have divided the profession into those who find an explanation for the result in galvanic agency, and those who connect it in some way with a mental operation. Dr. Wilks thinks neither view correct, nor does he think it possible in the present state of our knowledge to give a satisfactory explanation. We are in the position of not knowing what kind of force is produced in the brain and cord, nor the mode in which it is transmitted. Our knowledge is almost limited to the fact that, our brain, as well as galvanic agency, can move our muscles, and hence infer that every observable change in the nervous and muscular system is due to one or the other of these causes. In hemianæsthesia, other substances than metals will induce a cure; but on this account to attribute the results to the will or some mental operation, affords no explanation of the nature of the phenomena. If an effort of the will can restore movement to the paralyzed limb and bring back common sensation, as well as the activity of the special senses previously lost, it is impossible to account for the original symptoms. The case is often argued as if the hysterical condition was one of shamming, so that if a woman have paralysis of a limb, it is the same thing as if she did not choose to move it; but a mere unwillingness is certainly not the same as hysteria. Sir James Paget says rightly that the very essence of the disease consists in the patient not being able to "will." To rouse the will constitutes the cure. That the hysterical condition does not depend upon want of volition, the accompanying hemianæsthesia and loss of the special senses show, for the latter could scarcely be due to any effort or want of effort on the part of the patient. She can declare she is blind when not so; but she can not produce the hysterical amblyopia. Dr. Wilks thinks, therefore, that in these cases, the brain, as a whole or in part, has ceased to act or perform its function, somewhat after the manner of sleep. An injury or a blow is often the starting point of the attack. Brodie, in his great work on the joints, points out the fact

that hysteria and other nerve affections often succeed to a slight injury. Shock, then, either bodily or mental, is frequently the determining cause of the hysterical state. If we consider the brain functionless as in sleep, there is no difficulty in understanding the case of hysterical hemianæsthesia; it is a similar condition, with one-half only of the brain affected. A shock may produce general paralysis, or paralysis on one side only. In women, as slight causes derange the nervous apparatus, it is not surprising that equally slight causes will set it going again. The nerve force in women seems to be constantly ebbing and flowing under the influence of the most trivial impulses. A fall upon a medium bottle deprives a girl of movement and feeling on one side, as well as of the use of her special senses, and a sovereign tied on her leg brings them all back again. In these women with their unstable nerves, a violent shock paralyzes them, and another shock, be it galvanic or otherwise, will set them again in action. But not only a sudden effort of the will will set right the nervous apparatus, but the application of metals to the limbs, or a trephine to the head. It is possible to see how a strong effort of the will will rouse the dormant powers; that is how the healthy hemisphere can send a stimulus to the inactive one; but this does not cover all the forms of cure, nor does it afford an explanation of the production of the first symptoms. How a mere negation of the will can deprive a person of common sensation and the use of all her senses, it is impossible to tell, and until the nature of nerve force is better known, the explanation can not be forthcoming.—*The British Medical Journal.*

The Treatment of Delirium Tremens. By George W. Balfour, M. D., St. Aud.—The cases usually classified under the head of delirium tremens include every variety of alcoholic poisoning, from the excited, fidgety and prostrate condition popularly known as the "horrors," up to the very worst type of delirium tremens, often ushered in by severe and repeated epileptic attacks. Up to a recent date, the production of sleep was very properly regarded as the most important part

of the treatment of this disease, and this was sought to be induced by the most unjustifiable doses of narcotic poisons. Subsequently, chiefly owing to the writings of Dr. Ware, of Boston, delirium tremens came to be regarded as not in itself so dangerous as the means employed to cure it—as a disease, in fact, which might be safely left to itself, and which terminated naturally in from sixty to seventy-two hours. More recently still, chemistry having supplied safer and more active nervine sedatives, the production of sleep has again been recognized, not as a *sine qua non* in the sense of the former dogma that the patient must sleep or die, but as a very important and most efficacious means of cutting short the attack—so safe and efficacious, indeed, that it seems almost a premium on vice to promulgate it, though it is neither, unless properly employed. Dr. Balfour thinks that the opium treatment was kept up for so long a time simply because it was better than the method of venesection formerly used. He also thinks the treatment by large doses of tincture of digitalis decidedly dangerous. The treatment by large doses of Cayenne pepper—scruple boluses repeated every two or three hours—is often rapidly curative and never dangerous. The expectant treatment of Dr. Ware, seclusion in dark and padded cells, has gone out of use. Under this method of treatment the patients undoubtedly recovered, but they ran various risks—risks from their own violence, risks from exhaustion, from exposure to cold, etc. The use of tartar-emetic is less injurious than the opiate treatment, more dangerous than the expectant treatment and not more successful. On the other hand, it is most useful in cutting short a debauch, a full emetic of tartarised antimony seldom failing to put a speedy end to the most prolonged debauch. Chloroform has been tried but is unreliable and too often dangerous. The recognition of bromide of potassium as a safe and reliable nervine sedative ushered in a new era in the treatment of delirium tremens. Instead of a tedious convalescence, during which the patient ran various risks of death, from twelve to twenty-four hours treatment is enough to induce a sufficient amount of refreshing sleep to restore the patient to a rational condition and

speedy convalescence. The bromide fails only in very exceptional cases, the dose, however, has to be large—half a drachm or more—and that often, till so much as ten or more doses are given every hour. This frequent repetition of the dose is always irksome and troublesome, and the hydrate of chloral is a most efficient substitute. The first case Dr. Balfour treated with chloral was of a fortnight's duration and of maniacal ferocity. He had had the bromide of potassium at home, and was sent to Dr. Balfour because it was found to be impossible to manage him, and his case was looked upon as most dangerous. Two doses of hydrate of chloral, of thirty grains each, with an interval of an hour between each dose, sufficed to induce refreshing sleep from which the raving maniac awoke a rational man, requiring no further special treatment. Similar success has attended the chloral treatment in all other cases where Dr. Balfour has used it, and he thinks that we possess in hydrate of chloral a remedy which, in all such cases, from the slightest to the most severe, acts rapidly, safely and efficaciously, and which seems to deprive indulgence in drink of all its horrors and of nearly all its dangers. There are very few cases of delirium tremens which yield to a less dose than fifty grains, and a considerable number which require a good deal more; those cases requiring the largest doses being those ushered in by the *status epilepticus*, which chloral arrests as rapidly and safely as it does delirium tremens itself. Dr. Balfour has long been in the habit of treating this disease by giving forty grains of chloral hydrate every hour for three times if necessary. Sometimes the first dose has been enough, commonly two doses are required, very rarely three. Should the heart be feeble, each dose of chloral is given in half an ounce or an ounce of the infusion of digitalis.—*The Lancet.*

An Antidote in carbolic acid poisoning is dilute sulphuric acid, which combines with the phenol and forms the non-poisonous phenyl-sulphuric acid. Dr. Senftleben has used it with success. He gave 10 drops, diluted, every hour.—*Medical Record.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—*Three Hip-joint Cases.* By G. F. CENTER, A. M., M. D., Evansville, Ind.

Mr. B. was treated for "psoas abscess;" this "was lanced at the upper and outer third of the thigh," and "discharged large collections of sanious pus."

When I saw Mr. B. the right thigh was extended laterally at a right-angle to his body, that is, horizontal as he stood upon his left leg, and what should have been the inside of his thigh was the anterior, and parallel to a line drawn to impinge upon the anterior iliac spines. The leg dropped perpendicularly from the knee, and the bottom of the right foot was directed toward the internal maleolus of his left leg. Patient could not go upon crutches except he leaned forward, otherwise the right thigh came in contact with the right crutch. Believing this to be a case of morbus coxæ, wherein the misplacement was produced as patient stated—"by rough handling while carrying him from one bed to another," I proposed to treat the case, primarily, as a dislocation. For this purpose he was given chloroform; three staples having first been driven into the floor, one on either side of his pelvis, the other high up inside the left thigh. A towel was laid across the lower part of his pelvis and over the left thigh. By these staples a strong rope fastened him securely to the floor. Using the right leg and thigh as a lever, I succeeded in breaking up the adhesions which had been undisturbed for ten months. Afterward, I reduced the dislocation by Reid's method. From long disuse the leg would not straighten out as one would wish; to obviate this I tenotomed the internal and external hamstring tendons. Slight pressure upon the knee straightened the leg, which was of the same length as its fellow. The femur could now be adducted, abducted, or rotated, without dislocation. Put him in a long, external, screw-extension side-splint, counter-extension being made by a perineal band. He made a good recovery; has about two thirds the usual motion at the hip-joint. He follows the plow

quite well, scarcely limping. From the use he has of the leg, the acetabulum could hardly have suffered from its ten months of disuse. Brodhurst, after three years, and Fournier, after thirteen years, found the acetabulum retaining its form and cartilaginous covering.

Charles ———, æt. 5. Found patient in bed, leg enveloped in a large, soft poultice completely surrounding the thigh. Had used the poultice for six weeks, by the direction of the family physician. Upon removing the poultice and washing the leg in warm water, three cloacæ were found on the upper and outer side of the thigh. Probing these, the sinuses lead towards the head of the femur. Laid boy on table; could not bring the right leg to the table without bending spinal column forward in the lumbar region. Pelvis tilted upward and forward, raising it higher upon the right side; the heel raised and everted, hence toes inverted. Proposed to resect the head of the femur, or fix the head immovably in the acetabulum. The family after mastering the details of each mode of treatment, chose the latter. For carrying this into execution we constructed an apparatus consisting of an ischial crutch, upon which the counter pressure was made. Upon each side of the top of the crutch there was a band extending to the outer hip-piece. These were capable of independent extension, by wheel and ratchet, the side-pieces of which extended to, and were screwed by, a cross-piece to the shoe. Half-circular pieces of flat iron were placed at the ankle, and above and below the knee; leather straps continued these in front. The shoe was slit down to the toe and eyeleted for lacing, the movable part being above the knee, between these and the crutch on the inside, and opposite this, the ratchet on the outer side. This apparatus was worn for five months, producing no abrasion of the skin, nor otherwise acting as an irritant. For the "scrofula" gave

℞ Ferri bicarb.,
Quiniæ sulph., āā, gr. xxx.

M. f. Chart No. XV. S. Take three daily.

This was all the medicine given in the case, and even it was not repeated. Boy's appetite rapidly returned.

Kept the cloacæ clean and used

℞ Zinci acet., ℥ss,
Price's glycerine, ℥j. M.

S. Ten drops in half a teacup warm water; inject twice daily.

He remained in bed one month, then he had crutches made upon which he daily took exercise in the open air. About this time the discharge ceased, and he rapidly regained his former ruddy health. Now, twelve months after he laid away his apparatus and crutches, he goes to school regularly. The head of the femur is permanently anchylosed in the acetabulum. There is about half an inch of shortening. Knee and ankle joints act normally.

S——, æt. 23. St. Mary's Hospital. Three months previous to admission into the hospital, he had "pneumonia," immediately after which his physician was treating him for "rheumatism of the left leg." This "rheumatism" proved to be morbus coxæ. Treatment—Two long strips of adhesive-plaster four inches wide at the upper and two at the lower end, reaching from the upper third of the thigh to a point six inches below the foot. These were secured to the thigh and leg by circular binding strips of the plaster; this, too, was covered by a roller bandage. The two lower ends of the side strips were tied to a cord; this passed over a pulley at the foot of the bed; a bag of sand fastened to the cord was the extension weight. Bags of sand were laid on either side of the leg and thigh to prevent lateral motion. The case progressed unfavorably, resulting in suppuration; opening formed three inches below trochanter major.

Gave chloroform, then passed a grooved director into the cloaca, directing the upper end toward the head of the femur. Scalpel followed along the director, cutting upward until the head of the femur was reached; then by cutting directly outward, the finger could feel the roughened head of the femur, and also the acetabular disease.

Then made a cut through the periosteum parallel to the outer incision, after which, with the handle of the scalpel and periosteal separator, the whole periosteum, except in the

trochanteric fossa, was detached to a point half an inch below the trochanter minor. By turning the thigh strongly inward, depressing it at the same time, the head of the femur was projected without the incision; by pushing strongly upward the denuded bone was protruded wholly without the cut. With a finger saw the projecting femur was removed below the lesser trochanter. A gouge removed the acetabular disease. After washing the wound with warm water the wound was filled with oakum, saturated with Peruvian balsam. No blood vessels were tied. The same pulley and adhesive strips, together with the bags of sand, were readjusted. For the first few days the wound sloughed somewhat freely—soon healthy granulation commenced forming in the wound. The oakum and balsam Peru dressing acted better than carbolized cerate, carbolized oil, glycerine or any other substitute. The suppuration caused "scrofula;" for this "constitutional dycrasia," he took

℞ Tinct. Ferri chlo, gtt. xx.
Quiniæ, sulph, gr. jv.

Ter in die, with stimulants and a liberal supply of rich food.

We had some bed sores form on his back; this untoward complication was met by circular cotton cushions to take off pressure. The sores were washed with a mild solution of plumbi acetas. Then by using brown sugar freely as a dressing, they healed nicely.

The most probable cause of this case of morbus coxæ was a purulent mass from his diseased lungs, taken into the pulmonary veins, and from the left heart passing into the aorta, from there to the left internal iliac, thence through its posterior trunk into the obturator, lodging in the ramus acetabuli, there forming an embolus. The subsequent degeneration of the necrosed embolus, together with the breaking up of the hæmorrhagic infarct, causing periostitis of the head of the femur and the acetabulum. The bone removed is four inches long, very light, soft and spongy. The head is irregularly oval, roughened and eroded on the greater trochanteric facet. This inflammatory destructive degeneration

of the compact osseous structure continued to the neck of the femur, which was half absorbed. The acetabulum was denuded of periosteum, and irregularly honey-combed by the superficial caries extending into the more deeply situated bony tissues. There is good motion at the hip-joint, the leg is one inch short, he wears a thick sole and walks well, save upon uneven ground.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

ART. I.—*The Opthalmoscope, and Its Uses.* By W. H. SANDERS, M. D., of Mobile.*

Although this instrument has been the property of the "profession" for more than a quarter of a century, its use has been so confined to "Specialties" that, I trust, a brief rehearsal of the principles underlying it, together with some explanation of the manner of using it, and a hurried reference to a few of the valuable additions it has made to the pathology of eye-disease, may not be wholly devoid of interest to this body.

Its history will not be traced more in detail than is necessary to develop the principles of its construction, and the methods of its application. For a long while previous to the discovery of the opthalmoscope, it had been observed that the pupil of the eye, especially that of animals, became, at times, luminous—a familiar observation which every one has often verified. The attempt by scientific men to explain this phenomenon, as to why it was that the pupil, ordinarily of deep black color, should under certain conditions become lit up with a reddish lustre, led to the conception and perfection of this instrument.

The question arose as to whether this luminosity was due to a spontaneous development of light within the eye, from some obscure chemico-physiological action, or whether to reflection from other sources of light.

* Read at the Thirty-first Session, 1878, of the Medical Association of Alabama.

Attention was soon called to the fact that this appearance was never seen in the dark, only in the vicinity of other lights —hence the conclusion was inevitable that it must be due to reflection.

To utilize this principle, thus established, and to make it available for inspecting the interior of the eye, was the practical problem to be solved. Industrious and ingenious minds grappled for years with this solution, until the splendid mathematical genius of Heinreich Helmholtz, rising superior to every difficulty and crowning the progress already made with the chaplet of success, gave to the world an instrument combining the profoundest scientific principles with the most perfect and practical utility. The discovery was not born of accident, as has been the case with many great discoveries, but was the offspring and crowning reward of practical experiment, guided and directed always by theoretical reasoning.

To explain the principles upon which this instrument accomplishes its purpose, I can not do better than to invite your attention to the original opthalmoscope or arrangement used by Helmholtz, for it embodies every principle in the opthalmoscope of to-day, however much they may differ in mechanical detail. His original work on the subject, published in 1851, and entitled "A Description of an Opthalmoscope for the Examination of the Retina in the Living Eye," contains a diagram of it.

A lamp or candle was placed in a darkened room in front, and somewhat to the side, of the eye to be examined, and a polished glass plate, being held nearer the eye than the lamp, was so turned as to reflect the light of the lamp into the eye. Rays of light emanating from the lamp and falling upon the glass plate, were partly reflected from its surface at an angle equal to that of their incidence, and partly transmitted through it in a straight direction. Only the reflected rays concern us now. A suitable inclination was given to the glass plate so as to cause them (the reflected rays) to pass into the eye undergoing examination, by which a portion of its retina was *illuminated*—thus fulfilling the *first essential condition* in an opthalmoscopic examination.

The next question was, *how* shall this illuminated spot be seen by a second person? As all illuminated objects do themselves reflect or send forth rays of light, so do the structures in the fundus of the eye; and, clearly, in order that they may be seen, the eye of the observer must be brought into such a position as that he shall receive into it some of these returning or emergent rays.

Here, a difficulty was long encountered. The rays of light which issued from the eye undergoing examination fell upon the glass-plate, and obeyed the same law that the incident rays obeyed; i. e., were partly reflected back towards the source of light, and partly transmitted through the glass-plate in a straight direction.

Forgetting these transmitted rays, for a long while, the eye of the observer was placed between the lamp and the glass-plate, so as to endeavor to catch some of the returning rays from the observed eye which were reflected back towards the source of light.

So soon as the head of the observer was placed in this position it effectually cut off the source of light, and darkness, with termination of the experiment, was the result.

Finally, this difficulty was overcome by the eye of the observer being placed, not between the lamp and the glass-plate, but behind the latter, so as to depend upon those returning rays which passed through the glass-plate in a straight direction.

This obviated the difficulty, previously experienced, in not interfering with the source of light, and enabled the observer to receive into *his own* eye rays emanating from the illuminated fundus of the observed eye—thereby fulfilling the second essential condition of an ophthalmoscopic examination. The third and last condition of success was found to be, that the rays which issued from the illuminated eye must be rendered either parallel or divergent, for only such rays could be focused on the retina of the observing eye, supposing it emmetropic. Here, we may, according to Donders, define an emmetropic eye to be such a one as, when in a state of rest, unites *parallel* rays of light, falling upon it, accurately upon

its retina; or, when the power of accommodation is extended, can unite *divergent* ones, but under no conditions, either of rest or accommodation, can it unite convergent ones.

Perhaps, in the earlier experiments, the patient was not required to relax his accommodation by looking into the distance, but was allowed to fix his eye upon some near object, and thus, bring about that very *convergence* of the rays of light issuing from it, which made it impossible for them to be accurately focused by the eye of the observer.

Whilst this may, at times, have proved a difficulty in seeing distinctly the fundus of an emmetropic eye, it was *always* a barrier to seeing that of a myopic one, from which rays necessarily emerge with greater or less convergence, according to the degree of the myopia.

This difficulty was finally overcome by interposing a diverging or bi-concave lens between the glass-plate and the eye of the observer, which, according to its strength, rendered these convergent rays either parallel or divergent—whether convergent by the construction or accommodation of the eye. All the conditions essential to a successful ophthalmoscopic examination were thus met, and one of the grandest triumphs of modern medicine was made complete and perfect. An era had come. The fundus of the living eye, hitherto hid in darkness, was made to yield up, under the light of science, its beauties to the physiologist, and its diseases and deformities to the pathologist. Workers throughout the world seized the new instrument, and applied it, with great assiduity, to the exploration of those deep-seated affections of the eye which, now, by its aid, lay fairly open to observation.

Soon, it did for ophthalmology what the speculum has done for gynecology, or the microscope for histology, viz.: Converted it from a vague and an obscure branch into a beautiful science and a captivating study. I have detained you somewhat with the description of the arrangement by which Helmholtz succeeded first in looking into the living eye, because it served best to explain the principles upon which the ophthalmoscope depends. These, already men-

tioned, have been summed up by the translators of "Stellwag on the Eye," in an appendix thereto, in three, as follows:

I. The eye must be sufficiently illuminated.

II. The eye of the observer must be placed in the direction of the emergent rays.

III. These emergent rays must be changed from their convergence, and rendered divergent or parallel.

If these three conditions be complied with, the observer must see the fundus of the eye he is examining—supposing its media to be transparent—or, if he does not, the fault lies with himself, and not with the method.

For greater convenience, Helmholtz devised an instrument to substitute the glass-plate and bi-concave lens behind it, which met all of the above requirements. This instrument, known by his name, is, with some modifications, now used.

Very naturally, however, many instruments, differing more or less in plan, but all agreeing in principle, have been devised and offered to the profession. Here, I may assert the claim of America to having produced the *most* excellent ophthalmoscopes. I allude to those devised by Loring and Knapp. Advantages are claimed for each of these, into the merits of which it is not necessary now to enter. In essential points they are very similar, and either meets all the requirements of an instrument most admirably.

In these a silver-backed mirror, of about one inch in diameter, pierced in the center with an aperture of about one line in width, takes the place of the glass-plate used by Helmholtz. Such a mirror is preferred to the glass-plate on account of its greater illuminating power, and this may be further increased, and is in practice, by giving to the mirror a slightly concave form. Behind the mirror is a revolving disc, containing a series of concave and convex lenses for the purpose of giving to the rays emerging from the eye undergoing examination the necessary amount of parallelism or divergence, if they have not this already.

The essential parts of the instrument then are: the mirror, by which the illumination of the eye undergoing examination

is obtained; the aperture in it, through which the returning rays reach the eye of the observer; and the series of lenses contained in the revolving disc, to give to the returning rays the necessary amount of parallelism or divergence.

These parts are set into a suitable frame, to which a handle is attached for convenience of holding.

In the case containing the instrument are two convex lenses, of from two to three inches focus, used for examination of the superficial portions of the eye by means of side illumination; and, also used in the indirect method of ophthalmoscopic examination, to be presently described.

There are two methods of using the instrument, called the direct and the indirect. Both must be conducted in a darkened room, and with artificial light—the sun light being too powerful for the eye. The person, whose eye is to be examined, must be seated by a table upon which is placed a lamp, the position of the latter being on the same side as the eye to be examined, on a level with and a little in rear of it.

The ophthalmoscopist should sit in front of, and quite near to, the patient.

The instrument should be held lightly by the end of the handle and brought up in front of the eye of the examiner, so that he may look through the aperture in the mirror, the other eye being closed; and, for greater steadiness, the instrument should be rested lightly against the brow.

The mirror must be so turned as to reflect the light of the lamp into the eye undergoing examination and held steadily in that position. This much is common to both methods of examination. We now take up each separately.

I. The direct. The examiner and patient being seated, and the instrument held, as described, the observation should begin at a distance of 8 to 10 inches, at which distance an intensely reddish reflex is seen in the pupil. The examiner must approach nearer, the nearer the better, and, as he approaches, the details of the fundus begin to reveal themselves.

During the examination, the patient should be required to look into the distance, or, what would render his eye steadier, at some object on a level with it, and as far removed as the

limits of the room would permit—the purpose of this being to relax his accommodation, and thereby obtain that parallelism of the returning or emergent rays, which would enable the observer to focus them on his own retina.

Not only must the patient's accommodation be relaxed, but that of the examiner also.

If parallel rays of light issue from the eye undergoing examination, the only condition of the examiner's eye, in which they can be accurately focused, is one of complete relaxation of the accommodation. To relax the accommodation when looking at a near object; i. e., to look at a near object and to put the eye in the same refractive condition, as if it were looking at a distant one, is difficult to do and can only be acquired by practice.

Different portions of the fundus may be brought into view by directing the patient to move his eye in different directions —upward and downward, to the right and left.

Upon the size of the pupil will depend very much the facility of accomplishing the examination. If this be not already moderately large, the beginner will sometimes find it necessary to dilate it with atropia. The patient should always be cautioned *not* to look into the mirror of the instrument, as the glare produced causes considerable contraction of the pupil, which interferes with the examination.

To facilitate the nearer approach of the examiner's eye to that examined, the right eye of the former should be used for examining the right eye of the latter, and so of the left.

In what we have said of this method of examination, we have assumed that both eyes, that observing and that observed, are emmetropic or normally constructed.

If that be the case, and if the rules mentioned be complied with, a virtual, erect, and magnified image of the retina of the eye being examined, will be formed on that of the examiner.

Let us now suppose that, instead of having an emmetropic eye to examine, we have a myopic one. How shall it be seen?

In myopia the antero-posterier diameter of the eye-ball is

elongated; or, in other words, the retina lies beyond the principal focus of the dioptric media of the eye—hence, returning rays of light, emanating from a point beyond the principal focus of the lens system of the eye, would issue from it in a convergent direction, the degree of convergence depending upon the amount of the myopia or elongation of the eye-ball.

As said before, our own eyes, if emmetropic, can not focus convergent rays of light, therefore, they can not focus the rays which proceed out of a myopic eye, especially if the amount of the myopia be considerable. In such case we have need of one of the bi-concave or diverging lenses contained in the revolving disc behind the mirror of the instrument, and that one which changes the direction of the emergent rays from convergence to parallelism, not only enables us to see the fundus distinctly, but is a direct measure of the amount of the myopia.

Likewise, we may have an eye in the opposite condition; viz.: of hyperopia, to examine.

In this condition the antero-posterior diameter of the eye-ball is shortened; or, in other words, the retina lies within the principal focus of the lens system of the eye. Rays of light, emanating from a retina in that position, could not be rendered parallel by passing out through the dioptric media of the eye, but would issue from it in a divergent direction.

To utilize these rays for seeing the fundus of such an eye, the examiner could either exert his own accommodation, and thereby focus them on his retina, or place behind the aperture in the mirror that convex lens which would change the direction of the emergent rays from divergence to parallelism, and then, with his own accommodation relaxed, they would be brought to a focus upon his retina. The latter would be the better mothod.

In this case that convex lens, which is found necessary to enable the examiner to see the fundus distinctly, would express the amount of the hyperopia.

The series of convex and concave lenses, contained in the revolving disc of the instrument, is therefore intended, not

only to enable the examiner to see the fundus of the eye clearly, in cases demanding their use, but to measure at the same time the errors of refraction, and to indicate the glass suitable for their correction.

On the other hand, if an error of refraction exist in the examiner's eye, and not in that examined, the former may be also corrected by placing the proper lens in the disc behind the aperture of the mirror.

To sum up the whole method: It consists in throwing into the observed eye a strong pencil of light; in giving to the return rays such a direction as that, when they fall upon the eye of the observer, placed in the proper position, they may be accurately focussed on its retina.

II. The indirect method. The examiner and patient are seated, the instrument is held, and the illumination obtained as by the foregoing method; but the examiner, instead of approaching with his own eye quite near to that being examined, allows it to remain at a distance of from eight to twelve inches, and, with his unoccupied hand, holds a bi-convex lens of from two to three inches focus in front of and a little nearer to the eye undergoing examination, than the focal length of the lens.

The rays of light emerging from the illuminated fundus, pass through this lens and are brought to a focus in front of it, at its focal point—thus forming in the air a real inverted image of the illuminated fundus.

It is this real inverted image of the fundus, thus formed in front of the eye, and at a distance of from three to five inches, that the examiner sees, and not the retina itself.

As the rays of light diverge from this image, the eye of the examiner, in order to see it most distinctly, must be held at the ordinary reading distance from it—say six to ten inches.

It must, also, in order to unite the divergent rays upon the retina, either accommodate, or relax the accommodation, and place behind the aperture in the mirror its equivalent—that is, a convex lens which would render the divergent rays parallel. A No. 10 generally suffices.

The latter method is preferable, because it habituates the

ophthalmoscopist in relaxing his own accommodation when using the instrument, a habit he must acquire for the examination by the direct method, or for determining the errors of refraction.

Further, if he have many examinations to make in succession, the complete relaxation of his own accommodation will enable him to continue the work with less fatigue.

By the indirect method the details of the fundus are seen in an inverted position, and not so much magnified as by the direct method.

We come now to inquire, What are the ophthalmoscopic appearances of a healthy eye?

The first uniform and reddish reflex, seen in the pupil, and at a distance of eight to ten inches, is due to the blood circulating in the smaller capillaries of the choroid and retina.

Upon approaching nearer by the direct method, or interposing a bi-convex lens of two to three inches focus by the indirect, the following structures are to be observed:

The entrance of thc optic nerve, called the optic disc or papilla, the blood-vessels of the retina—arteries and veins—and the macula-lutea, or point of the sharpest vision. Underneath the retina more or less of the choroidal vessels and pigment may be seen.

The optic nerve, seen from the front, presents the appearance of a round or oval disc, of a whitish, pinkish hue, with an admixture, in certain cases, of a yellowish or bluish tint. In the centre, owing to the division of its fibers at this point, there is apt to be more or less depression or excavation, which is physiological, so long as it does not extend, or show evident tendency to extend, to the periphery of the nerve.

Generally at or near the center of the optic nerve, the central artery of the retina emerges, and immediately bifurcates into two main stems, one passing upward, and the other downward. These, as they pass towards the periphery of the eye, continue to subdivide until they become small and invisible.

Along the center of the larger arteries may be seen a white stripe, as if they were empty at this point, or as if all the

blood in them circulated along the sides. This appearance is thought to be due, as suggested by Loring, not to any real emptiness of the vessels at this point, but to a peculiar reflection of light from their cylindrical surfaces. The minute arteries finally become converted into veins which, coalescing, grow to be larger ones, and these, making their way back towards the optic disc, become united into one stem on the surface of the disc, which penetrates it at or near where the central artery emerged.

These two classes of vessels—the arteries and veins—may be readily enough distinguished from each other. The chief points of distinction are: Of color, tortuosity, and distinctness of the light stripe along the center. The arteries are of a brighter red, straighter, and in them the light stripe is better marked; the veins are of a darker hue, more tortuous, and in them the light stripe is less distinct. Between these retinal vessels is the general redness of the fundus, due, as said before, to the blood circulating in the smaller capillaries of the choroid and retina.

On the outer side, and a little below the horizontal, of the optic disc, and about two diameters of the disc removed therefrom, is the macula-lutea, or yellow spot, the point of greatest sensitiveness of the retina, and, therefore, of sharpest vision. Its appearances are variable, and in some eyes it is not to be recognized at all. Generally, it is of a bright, red color, of a somewhat glittering appearance, with a small depression in the center, the fovea centralis, and, as seen with the ophthalmoscope, has a diameter of about half a line.

I might have mentioned in connection with the appearance of the optic disc that it is either partly or wholly surrounded with a line of pigment, which, when dense, serves to mark its outer boundary with great distinctness. These are, in short, the normal ophthalmoscopic appearances of an eye. It may well be supposed that disease plays sad havoc with the order and beauty of this arrangement, and, as I undertake to point out to you some of these changes, and how they may be detected in the living eye, you will readily accept the assertion that the value of the ophthalmoscope can not be over-estimated.

I. Changes in the optic nerve.

What I shall have to say on this part of the subject will refer entirely to changes of appearance, and not to any minute, histological or structural change.

The principal changes of appearance which the nerve undergoes are of color or of form. Too great redness of it might indicate a congestion, some interference with the return circulation through the veins, a positive inflammation, or an extravasation of blood on its surface. A neuritis may have its origin at the retinal extremity of the nerve, and ascend towards the brain, being called a neuritis ascendens; or, it may begin at the base of the brain and descend to the retina, being in this case called a neuritis descendens.

An experienced ophthalmoscopist can sometimes distinguish between these two forms, and thus throw a valuable light upon an otherwise obscure diagnosis.

Too great paleness of the nerve might be due to a high degree of general anæmia, to embolism of the central artery of the retina, or of one of its first branches; but is oftener due to some atrophic change in the nerve itself; as simple progressive atrophy, atrophy following a neuritis, or that caused by the excessive use of alcohol and tobacco. In confirmed cases of atrophy the nerve often becomes as white as paper, but in other cases this white color is mixed with various shades of blue or bluish green. The latter tint is said to be often met with in cases of spinal amaurosis.

In all these conditions an ophthalmoscopic examination will readily detect the departure of the nerve in color, from the normal, pinkish hue.

In form the optic disc may depart from the healthy standard in being either too prominent, too much excavated, or irregular in contour.

Too great prominence would indicate swelling, which might be the result of neuritis, or of the pressure of a tumor along the course of the nerve.

Depression or excavation of the nerve would indicate increase of the intra-ocular tension, which occurs notably in glaucoma.

Normally, there is a proper balance between the intra-ocular tension, and the resistance of the sclera—if the former becomes abnormally increased, the latter will give way at its weakest point, viz., at the lamina cribrosa, where perforated by the optic nerve.

Hence, excavation of the nerve is the pathognomonic symptom of glaucoma. The excavation, in this case, differs from a physiological one, by extending out to the periphery of the nerve on all sides.

That an excavation exists, is determined by the following appearances: At the border of the disc, the blood-vessels, as they dip down into the excavation, disappear from view, to reappear at the bottom of it more or less faintly, according to its depth.

Seen from the front, the two portions of the same vessel, viz., that lying on the edge of the excavation, and that lying at the bottom of it, being upon different planes, can not be focused at the same time; consequently both can not be seen at the same time. When the opthalmoscope is adjusted for one portion, the other is necessarily indistinct, and *vice versa.* Glaucoma is well known to be one of the most destructive diseases which can befall an eye, and if not timely recognized while there is yet hope for the remedy—iridectomy—to be applied, the possibility of cure will have passed by forever, and the eye be irredeemably lost. In many cases, the disease is attended by other prominent symptoms than those to be recognized with the opthalmoscope, but not infrequently it accomplishes the destruction of an eye so insidiously, and so painlessly, that it could be diagnosed only with the opthalmoscope.

Not merely can a depression of the optic nerve, or in any part of the fundus, be diagnosed, but, likewise, an elevation or tumor, and the height or depth of either may be accurately measured, and expressed in fractions of an inch or metre, as the standard of measure may be.

To enter into any discussion of this subject, however, would transgress the limits of this paper. The normal contour of the optic nerve may be lost in many ways. Here,

I instance only a few: A neuritis, or neuro-retinitis, may obliterate the outlines of the nerve by converting the whitish-pinkish hue of the latter into a red, equal in intensity to that of the surrounding retina—thus destroying the contrast between the two; an extravasation of blood, or the products of an inflammation, may overlie a portion of the nerve, and render its outline irregular; or the development of a posterior staphyloma on one side or the other, or entirely around the nerve, may destroy its contour.

Such a staphyloma is one of the symptoms, as well as dangers, of myopia; and a comparison of the opthalmoscopic appearances, upon two different occasions, would determine the progression, or not, of the myopia by the increasing or stationary character of the staphyloma.

We now pass to some of the changes which may occur to the blood vessels of the fundus. These may become turgid and tortuous, or atrophied and almost, or quite, obliterated. If the veins only became full and tortuous, we infer that the existence of some obstruction to the return flow of blood through them; if the arteries are small and empty, we infer that they, or the tissues surrounding them, have undergone some inflammatory process, which has resulted in their atrophy, or that they are obstructed by the pressure of a tumor at some point on the main stem, or by an embolus, &c.

If the retinal arteries be seen to pulsate rythmically with the heart's action—that is, to fill and empty themselves synchronously with the radial pulse—we interpret this into evidence that the intra-ocular tension is increased; hence, pulsation of the retinal arteries becomes another one of the symptoms of glaucoma.

Hæmorrhage may take place from any of the retinal or choroidal vessels, and, when we consider the delicacy and tenuity of their walls, we appreciate how easily this may occur. The escaped blood may lie either along the courses of the vessels, or it may diffuse itself through the retina and vitreous humor. Upon its location would depend the damage. For instance, a hæmorrhage into a remote part of the retina would interfere less with vision than if at or near the macula

lutea, or point of sharpest vision. With the ophthalmoscope, its location may be accurately determined, and its absorption, or formation into obstructing bands, watched.

The retina and choroid also undergo many changes of structure, the nature of which can be definitely settled by the aid of this instrument. Inflammation, in some form, is generally the starting point of these changes. Often both structures are involved in the same process, but not infrequently it is confined to one. When this is the case, a differential diagnosis is quite possible.

For instance, if a retinitis exist, and be attended by exudation, the products of the inflammation will lie *in the retina*, and will be seen, at one or more points, to cover up and obscure portions of the retinal vessels.

The view of the same vessel may thus be interrupted at several points. Another evidence that an inflammation is located in the retina, would be the indistinctness of the outline of the optic nerve, already alluded to.

In a choroiditis, that the products of the inflammation were poured out in the choroid, would be determined by noticing that at some point a retinal vessel could be traced over the exudation, thus proving that the latter lay underneath the retina.

Ruptures of the choroid and retina may be differentiated in the same way. If the retina only be ruptured, very likely the rent will extend across one of the retinal vessels; but if the choroid underneath be torn, and not the retina, one of the retinal vessels may be traced continuously across the fissure—thus showing that the retina is uninjured.

Detachments of the retina—tumors—springing from any part of the fundus, foreign bodies lodged there, the growth of a cysticercus—all may be readily diagnosed or located, and treated understandingly, if not always successfully.

The range of the ophthalmoscope is not confined to the limits of eye disease. It often looks beyond, and sounds the first note of alarm in constitutional diseases, which are beginning insidiously to sap the very vitals of life.

The earliest deposit of tubercle sometimes occurs in the choroid coat of the eye.

Bright's disease of the kidney is often ushered in with a characteristic retinitis; a cerebritis, whch can dethrone the reason, or destroy the life, may proclaim itself most unmistakably in some derangements of the circulation in the fundus of the eye. But, perhaps, the greatest triumph of the ophthalmoscope consists in the *accuracy* with which it can be applied to the determination of the refraction of the eye, already mentioned, when speaking of the direct method of ophthalmoscopic examination.

By it the amount of myopia, or hyperopia, existing in a given case, may be measured, and the lens suitable for its correction computed, and this in cases, as of young children, where the refractive condition could not be otherwise ascertained.

I have endeavored to give a brief outline of some of the affections of the eye discoverable, and discoverable only, with the ophthalmoscope, without intending that any of the descriptions, as applied to particular diseases, should be regarded as complete.

No words more are necessary to impress you with the importance or the value of this instrument. They are simply beyond computation.

Our duty, then, is clear. Its diagnostic power should be brought to bear on every case of suspected disease in the fundus of the eye. To inspect merely the outside of an eye when a deep-seated affection is even suspected, and to prescribe, upon such basis of incomplete information, is far less philosophical than it would be to prescribe for a throat disease without seeing the throat, or for a skin disease without seeing the skin.

With the ophthalmoscope, either the nature of the trouble may be diagnosed, or the possibility of its existence eliminated.

For what the ophthalmoscope has done, I have but to point you to the rich domain of physiology and pathology, which it has explored, subdued and cultivated—a domain extending from the hitherto dark portal of the pupil, along crystal ways, to the inmost chambers of the beautiful temple of the eye—a

temple builded and fashioned for the reception and interpretation of those luminous waves which, leaving their birthplace and undulating through oceans of space, sweep into its open door, and guided and directed along glassy channels, touch at last the sentient keys, which open the great highways leading up to the very pedestal of that throne where their coming is recorded in visions of light, and where reigns in royal power the king of all our perceptions, thoughts and volitions. It may well be cause for wonder, and source of pride, that feeble and finite man has followed these bright beams into the farthest depths of the living eye, and made them servants of his will to illumine what was before all darkness and obscurity.

It may seem enthusiasm, but I can never forget the rapturous delight of my first glance into the inner chamber of the living eye. The rude picture I have put upon the board can convey no conception of that real, living one, spread out before the ophthalmoscopist. Imagine yourself to be looking through a vitreous sea, at the rosy island of the optic disc beyond, out of which gushes streams of crimson and liquid life, ever flowing on to nourish and vitalize the sensitive soil of the retina, which awaits but the touch of a pencil of light to yield the priceless fruit of vision, and you have but a feeble copy of one of nature's own paintings.

Helmholtz, in his first publication on the subject, a copy of which I hold in my hand, gave expression to these words:

"I do not doubt, judging from what can be seen of the healthy retina, that it will be possible to discover all its diseased conditions, as far as these, if seated in other transparent parts, such as the cornea, would admit of diagnosis by the sense of sight.

"I believe also," he continues, "that the turbidity of the vitreous body will be determined with greatly increased facility and certainty. I do not consider it an overstrained expectation that all the morbid changes of the retina or vitreous body, found on the dead subject, will admit of recognition in the living eye."

How modest a prediction when set alongside the actual re-

sults obtained! And how supreme must be the satisfaction and just the pride of him who still lives, in the full meridian of his usefulness, to reap more than the richest fruition of his early hopes, and whose name, when he shall have passed away, deserves to live down through the ages embalmed in his own benefactions.

In the study of ophthalmology are certain incidental advantages to which I would not fail to call your attention. The changes in the eye, produced by morbid processes, are often so delicate, and the distinctions between them so nice and narrow, that the closest scrutiny is required in order to discover or differentiate between them. A habit of close observation is, therefore, encouraged to a degree greater I believe, than in any other branch of medicine. To a physician, such habit is of priceless value, and if purchased by a course of study, both captivating and useful in itself, is a boon to be bought regardless of labor or of time.

If I need add any thing in behalf of the subject of ophthalmology, it would be to remind you of that conscious satisfaction which the capacity to thoroughly examine any disease, involving the most precious of our senses, certainly confers, and if to the completeness of the knowledge thus obtained should be added the power and the skill to reopen a darkened eye, then might professional pride accord its warmest approval.

NOTE.—At the reading of this paper the writer had the advantage of being able to illustrate it with drawings and diagrams on a black-board, kindly furnished him by the Committee of Arrangements. It has been impracticable, in the short time at disposal, to have illustrations prepared for insertion with the published paper. This has made it necessary to omit some portions of the original where these were indispensable, and indulgence is asked for any other portions which may seem obscure on account of their absence.

ART. II. *Metastasis of Vaccinia.** By J. C. J. KING, M. D., of Waco, Texas.

Lola Harris, a sprightly girl, nine years of age, daughter of James N. and Ollie Harris, of Waco, of a strumous diathesis, not having been previously vaccinated, was vaccinated with

*Read at the tenth annual session of the Texas State Medical Association.

bovine virus from an ivory point, February 18, 1878. At the same time, and from the same point, a younger brother and sister were vaccinated. That of the brother took the usual course of vaccinia, only a little more intense, developing several typical vesicles around, but separate and distinct from the point of insertion. That of the sister failed to produce any effect. On the 26th of February, eight days from the insertion of the virus, little Lola was seen again, and on finding only a small and imperfect vesicle, she was again vaccinated with bovine virus. On the 2d of March she was seen again, and the vesicle had dried up, and there was no appearance of vaccinia from the last insertion of the virus. She had her left eye bound up with a cloth, and, on being asked what was the matter with her eye, said that she had a stye on her eye, at the same time raising the bandage to show it. There was no appearance of a stye at all, but an angry-looking, swollen condition of the lids, the upper lid more particularly, on the margin of which, near the external canthus, was a purulent-looking spot, about a quarter of an inch in extent. The lids of the right eye were also œdematous. Being unable to determine the cause of the trouble, a light, starch poultice was directed to be applied during the night, and the bowels to be moved with sulphate of magnesia. On the 4th of March was called to see her, and found her eyelids very much swollen—almost closed, with an erysipelatous blush around the eyes, and extending across the temples; also, an erythematous rash about the neck and chest in front. The cervical glands were enlarged, and there was a high grade of fever, which had supervened some thirty-six hours previously. The purulent appearance which had been noticed on a small portion of the margin of the upper lid of the left eye, now involved half the extent of the margin of this lid, and had also appeared on the lower lid of the left, and on both lids of the right eye. There was a small vesicle on the nose, and one or two on the lids, which led to the idea that it might possibly be vaccination; but never having seen nor read of any thing of the kind, the patient was put upon treatment for erysipelas, as that seemed to be the most prominent feature,

using as a local application a solution of sulphite of soda (ten grains to one ounce), applied by means of lint.

March 5. Not so much fever; the intense redness had somewhat abated, but the swelling had increased. The purulent appearance of the margins of the lids had extended. One or two fresh vesicles were now to be seen on the nose, and one on the chin. During the day the case was seen by Dr. I. H. Sears and Dr. J. H. Caldwell, each thinking that it was probably vaccinia, but were unable to determine certainly what it was.

March 6. Fever declining; œdema about the left eye increased; the entire margins of the lids were now involved; the vesicles were enlarging and extending in circumference, some of which were now pustular and distinctly umbilicated, which made it unmistakably a case of vaccination. During this and the next few days, nearly every member of the profession in the city availed himself of the opportunity of seeing this unusual case.

March 7. The œdema of the lids was very great; so much were those of the left eye that they could not be separated to see the cornea. Grave apprehensions for the safety of the eye were now entertained. Up to this time there had been a remarkable freedom from pain, but there was now considerable pain from pressure upon the eye. The process of drying up of the pustules and purulent margins of the lids had now commenced, and the fever had subsided; but not until March 12 did the œdema of the lids of the left eye subside sufficiently to ascertain whether there was any damage to the cornea. It was found uninjured. The crusts soon began to fall off, and one of them, on a portion of the margin of the left upper lid, was so deep as to remove the hair bulbs, which will result in a permanent loss of the lashes, from at least one-third of the lid.

The most interesting question now in regard to this case is what caused the process of vaccination to leave almost entirely the point of insertion and to locate about the eyes? There can be no doubt but that vaccine virus is absorbed into the blood, and in this way affects the whole system, even re-

lieving obstinate skin diseases. Dr. Denby, of England, in 1825, reported the case of a boy, some twelve years of age, who was vaccinated in the left arm, and in a few hours afterwards chanced to have an incised wound made on his right knee. This wound at first had the appearance of uniting by first intention; but on the fifth day vesicles made their appearance about the wound, which afterwards proved to be genuine vaccine vesicles, while at the same time the vaccination in the arm ran the course of the true vaccination. In this latter case there was a wound to determine the localization of the vaccinia, while in the former there was nothing apparent to induce the metastasis, nor was the vaccination regular in the arm, as it was in Dr. Denby's case. Scratching the arm and conveying the virus which was placed on the arm was suggested, but there was no abrasion to receive it. The eyes were healthy, and had been for three years or more. It seems most probable that it was conveyed through the system, after being absorbed, and from some idiosyncrasy located about the eyes.

Deeming this case of sufficient interest to make mention of it, it is hereby respectfully submitted for the consideration of the Texas State Medical Association.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

SLATE SPRING, MISS.

Dr. E. S. Gaillard:

DEAR SIR:—Several years ago I attended a young man who had erysipelas on the left lower extremity, that finally extended to his body. While he was sick he was visited by a lady friend, who was pregnant with her first child.

On the fourth day of July following, I was called to see her in labor, and soon delivered her of a fine large boy; but his left leg was almost the exact counterpart of the erysipelatous one in appearance—very much enlarged, and of a fiery red color, etc.

While I was pondering over the matter, the mother declared that it was caused by seeing the inflamed leg.

The boy is a good-sized school-boy, but still carries his "big, red leg," as he calls it.

I have never had a doubt but that it was produced by the impression made upon the mind of the mother. If you think the above worthy of a place in your journal, you can publish it. Respectfully, T. J. Fox, M. D.

DALLAS, TEXAS, March 13, 1879.

Dr. E. S. Gaillard:

In the March number of your journal, Dr. Roberts, Magnolia, N. C., reports a case of convulsions—probable cause "excessive malaria." During the summer of 1867 I was called to see a lad about fourteen years of age. Arrived about 10 A. M.; found patient having convulsions of violent type, and recurring at short intervals. Now let me give a brief history. The patient lived in a section known as the "Hills," Montgomery county, Ala.—a strip of country malaria has "marked for her own." He had been "chilling" at varying intervals from his childhood up to date; well developed for his years, but his countenance dull and listless; skin dry, harsh and sallow, and very hot; tongue broad, flabby, and covered with whitish fur; bowels constipated; spleen enormous, reaching almost entirely over the abdomen. For several days prior to this attack has been feeling badly—dull headache, bad taste, etc. Has had no chill very recently; has never been injured in any way. Having only a few simple remedies with me, I endeavored to relieve the most urgent symptoms. In furtherence of this end I ordered enemas, but a syringe could not be found in the neighborhood. The agents given internally made no marked impression; frictions, mustard baths, etc., lengthened the intervals between the spasms, and mitigated somewhat the intensity. But as the evening advanced the boy grew gradually weaker and more and more comatose, till about 9 o'clock P. M. when he died. During the same season I was called several times to see an infant about three or four months old. Parents

lived in same neighborhood as the case No. 1. Mother had been "raised on chills" (as she expressed it), and had them frequently during her pregnancy. The child had the "spells" every fourteen or twenty-one days, ushered in with fever and convulsions. Quinine, and such cathartics and tonics as indications demanded were exhibited, but parents were negligent—declined after a few weeks to employ medical aid. The "spells" continued to recur from time to time, and in three months the child died—I was informed—in convulsions. I could mention other cases similar, but these will suffice now. I believe the convulsions in both these were caused by the excessive malarial poison. What do you say about it?

Yours respectfully, J. McQUEEN, M. D.

CHEMISTRY AND PHARMACY.

"Diruit ædificat, mutat."—HOR.

BY C. W. NULL, M. D.

ADULTERATION.—Mr. G. T. Angell, in a paper read before the American Social Science Association, discusses the subject of adulteration in a most remarkable manner. In point of power and terseness of expression, his paper rivals the famous article of Sydney Smith's, on "Taxation." According to him we are in a bad condition. He says: "Our cook, wearing a poisoned dress, puts poisoned food in a poisoned dish, and sends it up to be eaten in a poisoned atmosphere. Our bread, made of potatoes and alum, covered with butter made from the fat of unknown animals, and alive with parasites. We pour our watered milk into adulterated tea, and sweatening it with sugar made heavy with iron, and corrosive with acid. We shake out red lead with the Cayenne pepper, and spread on chromate of lead with our mustard. Our baking powders are adulterated with alum and terra alba; terra alba is mixed with sugar and cream of tartar. Sugar is poisoned with tin and iron, while even the tinware is made dangerous with lead."

CHEWING GUM.—Among the quiet little manufactures of the country is that of chewing gum. Factories exist in New England, New York State, Ohio, Illinois, and Tennessee. The gum is sold by nearly all druggists, grocers and confectioners in the United States. Gum obtained from spruce trees was exclusively used until recently, when it found a rival in the so called gum mastic, a white and attractive article made from parafine, which is sweetened. The consumption of this chewing gum in the United States is about thirty tons yearly; that of spruce gum somewhat less, and that of the gum made in Tennessee, from balsam tolu, and sold in the Southern States, about twenty tons. Lately a material has been used, styled "rubber gum." It is from the sap of the sapote tree, of South and Central America. The sap, like that of the India-rubber tree, has a milky look. The gum was first imported into the United States with a view of melting it with India-rubber, in order to produce a cheaper article than the latter. It was found to be unpliable, and therefore useless for that purpose. It has long been chewed by South and Central American Indians, and found useful in allaying thirst. Experiments were therefore made here in purifying it for chewing, and with final success. It is tasteless, and has the merit of lasting longer than other gums, which more quickly dissolve and crumble in the mouth. So great is its ductility, that a piece half an inch square, after being heated in the mouth, can be stretched into a thread a hundred feet long. Its consumption reaches the enormous amount of fifty tons a year. Chewing gum, though certainly objectionable, is much less harmful and filthy than tobacco, and unlike tobacco, it does not require that the saliva shall be expectorated; it does not, like smoking, excite the nerves, nor like a superabundance of food or drink, hurtfully overload the stomach.—*Scientific News.*

ORGANISMS IN THE ATMOSPHERE.—The important agency of organic particles in the air in different processes, such as fermentation and putrefaction, is a well-known fact. M. Miguel has recently made a series of interesting observations, show-

ing the quantity of microscopic organisms at different seasons, and the conditions of their increase and decrease. By passing a constant stream of air over drops of liquid composed of glycerine and glucose, he got all the suspended particles in the air. The results of his observations, in respect to organisms that are two one-thousandths of a millimetre in diameter in the air, are: (1) The number of microbia in the air is small during the winter, increases quickly in the spring, remains pretty constant during the summer, and decreases in the autumn. (2) Rainfall increases the number of microbia. The increase after rainfall is very remarkable. In mid-summer, if higher temperature follows a thunder-storm, the instruments having shown the day before 5,000 to 10,000 fads, may indicate the next day 100,000. Temperature and moisture appear to have the greatest influence on the number of microbia in our atmosphere. Other organisms constantly observed in the air are bacteria, monads in many cases, rhizopads occasionally, and in rarer instances, the eggs of larger infusoria. Spores of macedineæ, and many other cryptograms, the diameter of which is two one-hundredths to ten one-thousandths of a millimetre in diameter, are very abundant in the air. Besides these, are found larger fruits of some fungi, in some cases one-tenth of a millimetre long, grains of pollen of different sizes and colors, grains of starch, and green algæ (palmelleæ).—*Boston Journal Chemistry.*

A Practical Hint in Marking Tools.—Warm the steel, apply a thin coat of white wax, and let it thoroughly cool; then take a sharp graver and run it through the hair, in order that the point may be coated with the least possible amount of grease, and mark the device through the wax. Apply nitric acid, and allow to stand for a few minutes; then wash off thoroughly with water, and heat the article; rub off the wax with a clean rag. By a little practice any one can soon form a shapely letter, and will be able to mark a tool very nicely.

Absorption of Carbonic Oxide by Living Organisms.—N. Grehaut has experimented with mixtures of air and minute portions of carbonic oxide. He finds that a man or ani-

mal, when compelled for half an hour to breathe an atmosphere containing only 1-779 of carbonic oxide, absorbs that gas in sufficient quantities to saturate about half of the red globules of the blood, so that they become incapable of absorbing oxygen. In an atmosphere containing 1-1449 of carbonic oxide, about a quarter of the red globules are similarly saturated. These results are interesting and important in relation to physiology and hygiene.—*Boston Jour. Chemistry.*

The Fermentation of Grape Juice.—This fermentation is exclusively due (according to M. Pasteur), to the presence of cells of yeast at the surface of the grapes whither the air has brought them. If these cells be suppressed, fermentation should be thereby rendered impossible. Now, in the Jura, it is found that the grapes do not bear any traces of these cells until the end of July. Hence if they are then protected from the dust of the air, it should be possible to bring them to ripeness without the juice being afterwards able to ferment. On this supposition M. Pasteur placed grapes in inclosures where all access of atmospheric dust was rigorously prevented. More simply, he enveloped grapes in wadding, raised previously to a temperature of 100° C. He showed in the French Academy grapes ripened under these conditions, and he affirmed that one might crush them and keep them any length of time at the suitable temperature, without the least fermentation taking place.

Consumption of Opium in the United States.—In the year 1877 there was brought to this country 2,589,924,383 grains of opium. Deducting one-fifth for medical uses, there remains for opium-eaters 6,125,383 grains daily. If thirty grains be taken as a daily dose, there are in the United States over 200,000 men who eat opium. This kind of information presents probably an unfair and fallacious view of the quantity of opium used by our population. The Chinese use large quantities, and much of it is exported in the alkaloidal form to other countries, and a great deal is held as stock.

THE EUROPEAN PRODUCT OF SULPHURIC ACID.—In an article on sulphur and its products, by Dr. Deite, it is stated that in 1875 the total yield of sulphuric acid in Europe amounted to 841,000,000 kilos., of which 500,000,000 fall to the share of England, 150,000,000 to France, 106,000,000 to Germany, 40,000,000 to Austro-Hungary, and 30,000,000 to Belgium. —*Exchange.*

A FRENCH firm showed at the Paris Exhibition a Faraday electro-magnet, alleged to be the most powerful ever made; the coils have a diameter of 50 centimetres (19.7 inches), and a height of 60 centimetres (23.6 inches); the total weight is 950 kilogrammes (2,193.6 pounds).

PHILIPPIUM.—This new metal was detected over a year ago in sipylite, by Mr. W. G. Brown (of the East Tennessee University), who communicates the results of his analysis to the Chemical News. He observed by the power of the spectroscope certain lines that evidently belong to that metal, which give positive evidence of its existence in sipylite.

ORGANIC OILS AND FATS AS LUBRICANTS IN IRON MACHINERY.—Dr. Marguardt, in a German journal, directs special attention to the evil accruing from the use of organic oils as lubricants. He observes that oxidation rapidly takes place, and a resin is produced which gums the machinery and makes the friction worse, rendering a thorough cleaning of the machinery absolutely necessary. These oils are also easily decomposed into glycerine and the fatty acids, which corrode the iron and increase the wear of the machinery. Petroleum and its products are the only true and economic lubricants—they bear none of these evils.

DR. J. H. CARRIGER, of Knoxville, Tenn., claims that ipecacuanha is a reliable and potent oxytocic, safer than ergot, and that it facilitates the dilatation of the rigid os. Two grains was the usual dose; prompt effects followed.—*N. Y. Med. Journal.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Index damnatur cum nocens absolvitus."

ART. I. *The Principles and Practice of Surgery.* By JOHN ASHHURST, JR., M. D., Professor of Clinical Surgery in the University of Pennsylvania, Surgeon to the Episcopal Hospital, &c. Second edition, enlarged and thoroughly revised. Henry C. Lea, Philadelphia.

This is a volume of about one thousand pages, and in these days when works on surgery are generally composed of two or more ponderous tomes, may be considered a work of the lesser magnitude. In fact this may be called the period of big books and of little books on surgery, and paradoxical as it may seem, the same fault is common to most of them. When a surgeon composes a large work upon surgery, he naturally endeavors to give a full account of every surgical disease and surgical injury, and without the aid of specialists, it is impossible for one man to accomplish such a task. The smaller work also proposes the same object; hence in both, some subjects will be treated in detail, and some will be given in a mere sketch, useless to the reader. A work on surgery, then, intended for medical students, should avoid the bulk of the larger works, and be something more than the mere epitome the smaller works usually are; and such a work Dr. Ashhurst evidently intended his book to be, as it is dedicated to the surgeons and students of surgery of America. Dr. Ashhurst has undoubtedly some of the qualifications for such a task, in a high degree. He is a successful teacher, and a surgeon in large practice. And, moreover, he was also the former editor of *Erichsen's Surgery.* It would not be right to say that Dr. Ashhurst has wholly succeeded in his object, for we can not expect this work to supersede others now in use, though it may come into general use as a text-book. We are certain it is a most valuable book, and is highly creditable to the accomplished author. The size of the book renders it convenient for students of medicine, who naturally dislike the larger works. The first two chapters are devoted to inflammation and its treatment. These portions of the

book, although meagre, are satisfactorily written, and entirely correspond with Mr. Simon's most able article upon the same subject in Holmes' System of Surgery. Although rejecting venesection and even local abstraction of blood in inflammation, Dr. Ashhurst resorts to the other so-called antiphlogistic remedies, such as arterial sedatives, purgatives, diuretics, diaphoretics, &c., and believes that of all remedies, opium is the most valuable. For the local treatment, he lays great stress upon the system of M. Petitgand, or mediate irrigation as it is called.

The third chapter is devoted to operations in general and to anæsthetics, and is well and ably written. Dr. Ashhurst prefers ether to chloroform, and denies the well-established claim of Dr. C. W. Long, of Georgia, as to priority in the use of the former agent. Chapter fourth, on minor surgery, is altogether unsatisfactory. It is well enough as far as it goes, but there is not enough of it. The whole, or even a notable part of the art of bandaging, can not be comprised in three pages, nor the operations of minor surgery in five more. Chapters fifth and sixth are devoted to amputations. This part of the book is probably the best portion of it; but we can not see why these four chapters are placed in this place, nor why they should be interposed between the chapters on inflammation and the one on general injuries, in which inflammation plays so prominent a part. It would seem that it is the surgeon's duty to avoid, as far as possible, mutilating the patient, and therefore he should most carefully study the principles of the treatment of injuries and diseases first; if amputation then is necessary, the latter part of the book would be the proper place to inform him of the best method of performing that operation. Wounds, their treatment, the arrest of hæmorrhage, the ligation of arteries, and the injuries to the nerves and tendons, bones and joints, are then discussed, some of them more fully than others, but all in a satisfactory manner. Chapters eleven and twelve treat of fracture, and chapter thirteen of dislocations, and in our opinion the chapters on fracture are far superior to the one on dislocations. We do not propose in this manner to take up every chap-

ter, but would say that the effect of the perusal of the whole book is in general satisfactory, and that we can recommend the work to medical students as one deserving their attention. The last part of the book, on the female organs, might as well have been omitted, as it is not full enough even for the pages of a dictionary.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

JOHN HUNTER AND VIVISECTION.—In speaking at the dinner of the Hunterian Society of London, Professor Owen referred to the subject of vivisection, which had been so powerfully treated by Professor Humphry in his oration at the College of Surgeons, and adduced an instance in John Hunter's physiological labors which bore impressively upon the mooted question. He said:

"Most of you, gentlemen, may have noticed the beautiful injected preparations exemplifying the structure and vascularity of the formative membrane of the growing antler of the deer in Hunter's physiological series, besides other preparations illustrative of the mode of growth and condition of the fall of those singular weapons of the cervine tribe. In the prosecution of Hunter's researches on this subject, he was granted the privilege of making experiments on the deer in Richmond Park, from which the preparations in his museum were supplied. In the month of July, when the buck's antlers were half grown, he caused one to be caught and thrown; and knowing the arterial source of supply to the hot 'velvet,' as the keepers call it, Hunter cut down upon and tied the external carotid, upon which, laying his hand upon the antler, he found that the pulsations of the arterial channels stopped and the surface soon grew cold. The buck was released and Hunter speculated on the result; whether the antler, arrested at mid-growth, would be shed like the full-grown one, or be longer retained, as happens after castration. A week or so

after the vivisection he drove down again to the park, and caused the buck to be caught and thrown. The wound was healed about the ligature; but on laying his hand on the antler he found, to his surprise, that the warmth had returned, and the channels of supply to the velvety formative covering were again pulsating. His first impression was that his operation had been defective. To test this he had the buck killed and sent to Leicester Square. The arterial system was injected. Hunter found that the external carotid had been duly tied. But certain small branches, coming off on the proximal or heart's side of the ligature, had enlarged; and tracing on these, he found that they had anastomosed with other small branches from the distal continuation of the carotid, and these new channels had restored the supply to the growing antler. Now you may remember what Hunter narrates of himself, as pondering upon phenomena, when rolling in his carriage from one patient to another, conceiving modes of vivisection and speculating on results. Here was a consequence of his experiment he had not at all foreseen or expected. A new property of the living arteries was unfolded to him: capillaries can enlarge according to a 'stimulus of necessity.' And in his wide viewing application of a new fact, he arrived at the happy idea of the relation of this to aneurism. Hunter, as Surgeon to St. George's Hospital, was most conversant with that form of the disease to which coachmen are subject—the popliteal aneurism. At the period when the great physiologist was vivisecting the deer, the case stood thus: A patient with the tumour as big as a child's head pulsating in his ham, beating against contiguous irritated nerves and pressing upon inflamed periosteum, was the victim of a seat of continual torment: no sleep was to be had save through opiates; the prospect of release was closed by bursting of the blood-charged tumour and by death. The old operation of excision had so rarely averted the lethal result, that Pott, Hunter's contemporary at St. Bartholomew's Hospital,, boldly suggested amputation of the thigh, and the percentage of recovery was thereby somewhat increased.

"Conceive a blatant humanitarian inveighing against the

cruelty of experiments on dumb brutes, and who, having succeeded in closing this inlet of beneficent light to a gifted truth-seeker, had become prostrate and groaning on his couch with a popliteal aneurism! At the period of Hunter's vivisections, the following would have been the modicum of consolation which the highest surgical science could have afforded the human sufferer. 'My dear sir, I must tell you that the only operation our surgical science teaches is the very painful one of cutting out your tumour and tying the blood-vessels, usually more or less diseased, above and below it; and I am bound to say that but five per cent. at most recover from the operation. It is true that Mr. Pott suggests amputation high enough above your tumour to afford the better chance of the artery bearing the ligature. Will you lose your leg or life?' Although there were no anæsthetics in those days, I am not sure that I could afford much sympathy in the case of the anti-vivisectionist reduced to this choice, as to this day he might have been had Hunter not cut down and tied the artery of the deer.

To the patient in the predicament mooted who came under Hunter's care, after he had thought out the applications of his physiological discovery, the surgeon was able to say: 'Now, my good man, you know how few of your brother coachmen have left the hospital alive after the best we have been able to do for you; but if you will consent to let me, instead of cutting out your tumour or cutting off your leg, perform a much smaller and less painful operation, I think you may have a better chance of being cured than by the old methods.' 'Oh! God bless you, sir, do whatever you think right in my case. I am weary of my life.' Hunter explains to his pupils the principle upon which he proposes to operate; he cuts down and ties the femoral artery. The popliteal tumour at once shrinks to half its size; the leg, like the antler, becomes cold. 'Wrap it in flannel; but do not apply any artificial heat,' was the surgeon's direction. In a few days the natural warmth of the leg and foot was restored, but by channels independent of the diseased popliteal artery. The blood in the tumour, no longer agitated by a pulsating sup-

ply, coagulated. Absorption reduced it to a small size, and the man in a few weeks walked out of St. George's cured. All that Hunter required of the grateful patient was that he should arrange, in case of death, that the state of his leg should be looked into. The notable result is the classic preparation in the Hunterian series of pathological anatomy.

"Now, to go back to the pseudo-humanitarian side of the question. Suppose the gifted physiologist in Hunter's time to have required the license of a Home Secretary before experimenting on a living animal. He makes his application.

"'What, sir, may be the experiment you have in view?' Answer: 'To tie certain blood-vessels and cut certain nerves in a deer.'

"'What is your object in performing those operations on the poor animal?' Answer: To find out how its horns grow.'

"'And so, to satisfy your curiosity on this point, you come to me for permission to cut open the living creature and squeeze its arteries and nerves with your ligatures. Sir, if you have no better end in view than this, my duty is to—bid you good morning.' *Exit* vivisectionist physiologist.

"At the date of the supposed colloquy, Hunter's public repute was not what he ultimately attained. And here it may be mooted: what is the agony of four or more hours' chase by fiendish dogs hounded on to tear the life out of a hunted stag, compared to the five minutes or less of the small, neatly-performed operation? And what are the results known or possible to humanity in the contrasted cases?

"Such considerations may be commended to those who cheaply flaunt before the world, in a pharisaical fashion, their humanitarian phylacteries prohibitory to vivisection."

The foregoing account of Hunter's operation is founded upon a tradition received by William Clift from his predecessor, William Ball, who assisted John Hunter in injecting and making the preparations which illustrate the phenomena of the successive growth and loss of the antlers of deer. —*British Medical Journal.*

American Medical Association.—The following gentlemen were appointed delegates to the American Medical Association, by Dr. C. H. Todd, President of the Kentucky State Medical Society: Drs. H. M. Skillman, Lexington; T. J. Wise, Covington; J. W. Thompson, Paducah; J. Baker, Shelbyville; J. A. Hodge, Henderson; R. W. Gaines, Hopkinsville; J. L. Dismukes, Mayfield; E. S. Gaillard, Louisville; Turner Anderson, Louisville; D. S. Reynolds, Louisville; Irvin Keller, Louisville; L. S. McMurtry, Danville; H. F. McNary, Princeton; S. P. Craig, Stanford; R. C. Thomas, Bowling Green; R. O. Cowling, Louisville; Coleman Rogers, Louisville; John Goodman, Louisville; P. B. Scott, Louisville; D. D. Carter, Versailles; Pinckney Thompson, Henderson; M. E. Poynter, Midway; J. M. Meyer, Danville; L. P. Yandell, Louisville; W. Walling, Louisville; J. M. Holloway, Louisville; M. F. Coomes, Louisville; L. Beecher Todd, Lexington; I. Hale, Owensboro; W. B. Rodman, Frankfort; Henry McDowell, Cynthiana; W. E. Ryan, Simpsonville; R. W. Taylor, Hawesville; J. W. Singleton, Paducah; I. S. Warren, Danville; W. B. Miller, Calhoun; A. D. Price, Harrodsburg; J. A. Larrabee, Louisville; C. W. Kelly, Louisville; E. R. Palmer, Louisville; J. A. Octerlony, Louisville; A. P. Vance, Louisville; S. S. Watkins, Owensboro; O. D. Todd, Eminence; J. D. Neet, Versailles; J. P. Thomas, Pembroke; H. Brown, Houstonville; D. C. Tucker, Danville; J. D. Collins, Henderson; J. A. Lewis, Georgetown; J. W. Pritchett, Madisonville; C. H. Thomas, Covington; S. J. Rhodes, South Carrolton; J. Q. A. Stewart, Frankfort; J. B. Walker, Scotsville.

Worthless Periodicals.—The warfare which we have waged unremittingly against the present tendency of the times to patronize cheap and local literature, instead of giving support to a few able and representative journals, is beginning to bear fruit, and we are glad to be able to publish the following comments on Dr. Billings's recent article from a journal whose position entitles its opinion to great respect, the *Chicago Med-*

ical Journal and Examiner. We trust the time will soon come when physicians will appreciate the great advantages to be gained by concentrating their patronage upon a few representative journals, and the positive injury they do to medical literature by subscribing to a purely local journal "run" in behalf of some "interest." "We could wish that Dr. Billings, or some other writer of equal ability, might have the courage further to divide the fifty-three survivors into two classes: the one to represent the journals which are conducted with a view solely to the advancement of science; the other to include those which are the pure and simple advertisements of individuals, medical schools, or dealers in drugs. We have carefully perused the list of the fifty-three surviving journals, and have deliberately concluded that but from fourteen to twenty are of any permanent value to the profession, and worthy of general circulation, or to be sent abroad and handed down to posterity as fit exponents of Americal medical periodical literature. Some of the others possess no value whatever apart from the gleanings which they regularly make from the crops carefully harvested by their more thrifty neighbors. Some are absolutely worthless, judged from any standpoint, and a few are undeniably worse than worthless—they are dangerous and disgusting parasites upon the body medical. Of this latter class are the cheap publications which aim to be classed as medical journals, but which are really the clumsily disguised advertising sheets of certain pretentious drug-houses of doubtful reputation. The sterling common sense of the mass of the physicians throughout the country must supply the remedy for this evil. We call upon every good man, who values his own reputation, and who cares for the elevation of the standards of the profession he has chosen, to contribute money for the support of the best medical journals, and of these only. In this connection we do not ask such to subscribe for this particular journal. The subject is one of such importance that if the desired result could be completely attained by the suppression of this periodical, we would gladly make the sacrifice in the interest of the profession at large. It is the duty and interest of every

physician in the land to support heartily the best of our journals, and none other. Let it be understood that it is a stigma upon one's reputation that his name has appeared in an obscure advertising sheet, in connection with the indorsement of a questionable 'novelty' in drugs, or even as an author. And we call upon the editors of the respectable medical journals of America to refuse an exchange with every periodical of doubtful character and provincial position. That will be a bright day for medical journalism in the United States, which sees the organization of an associated medical press, membership to which will be restricted to the managing editors of really good journals in existence, the privilege of membership and exchange to be granted only by unanimous consent of those already in enjoyment of these privileges. Under such an arrangement, advertising firms and book publishers might cease to offer a premium for mediocrity and worthlessness in the periodical medical literature of our land." We have the material for producing as fine a set of journals as is to be found in any country. Why thus persistently hide our light under this bushel waste-basket of paper? We have never looked upon the editor's association as an organization possessing any special *raison d'etre*. An associated medical press, embracing a few of the best journals, with a distinct object in view, would, we think, be a valuable agent in bringing about the desired reforms.—*Boston Medical and Surgical Journal.*

MEDICAL NEWS.

"Nulla dies sine linea."

The Cleveland Medical College has been added to the list of active members of the American Medical College Association.———Any one having a copy of the first volume RICHMOND AND LOUISVILLE MEDICAL JOURNAL, and wishing to dis pose of it, will please inform Dr. T. P. Satterwhite, Louisville, Ky., of the fact at once.———The trustees and faculty of Rush Medical College desire to announce the establishment, in this institution, of a professorship of gynæcology, and

that Professor William H. Byford, A. M., M. D., of Chicago, has accepted the appointment to fill the new chair.———In a case of supra-orbital tic, from six to twelve drops of chloroform were injected into the upper eyelid, the point of the needle being directed toward the supra-orbital foramen. The operation was followed by severe pain, which was succeeded by insensibility of the entire region. A tumefaction of the region was also produced, which was replaced by an induration that persisted for several days. In spite of the obstinacy of the affection, a single injection gave relief for several months. —*La France Medicale.*———Mr. T. Spencer Cobbold reports a case of leprosy, related to him by Dr. Bancroft, of the Brisbane Hospital, in which filariæ were found in the blood. The patient was a native of England, had been in the colony twenty-five years, and had been in the habit of using well and swamp water. Dr. Bancroft adds that he has re-examined the blood of two patients who formerly had filariæ in connection with abscesses of the arm; their blood is now free from hæmatozoa.—*The Lancet.*———The blatta orientalis, or common cockroach, is a popular remedy in Russia. The researches of Bogomolow have given the following results from its employment: The quantity of urine is increased; the quantity of albumen diminished; œdema and ascites disappear; the weight of the body diminishes; the perspiration is generally increased; digestion is not impaired; the kidneys are not irritated. The dose employed was four and a half grains of the powder obtained from the dried insect. These results were confirmed by Unterberger, who employed the drug with great success in scarlatinal albuminuria. M. Koehler has also employed it in thirteen cases of dropsy of various origin. His results were sufficiently conclusive, and show that the blatta orientalis really possesses remarkable diuretic powers. Its most interesting action, however, is its power to cause a rapid disappearance of the albumen from the urine. Hence it is not a simple diuretic, and its true field of action should be sought in Bright's disease. It seems to be entirely innocuous.—*Journal de Medicale de Bordeaux.* ———Professor Alfred Stillé, of the University of Pennsyl-

vania Medical School, in accordance with a determination expressed by him to serve but fifteen years, when he was elected in 1863 to the chair of the Theory and Practice of Medicine, lately handed in his resignation. At the special request of the trustees, however, the doctor was persuaded to withdraw the resignation.—*Medical Record.*———Professor William H. Byford, who has occupied the chair of Obstetrics and Diseases of Women in the Chicago Medical College since its organization, twenty years ago, has resigned to accept the chair of Gynæcology in Rush College. Professor De Laskie Miller retains the chair of Obstetrics in Rush College.—*Medical Record.*———Professor Ellerslie Wallace, of Jefferson Medical College, exhibited to his class, upon a recent occasion, a new and valuable cranioclast, devised by himself, and made by Mr. Gemrig, of Philadelphia. The blades are of the Hodge shape, but hollow and unfenestrated. The peculiar value of the instrument depends upon an ingenious mechanism, by means of which two long teeth are sprung in the hollow of each blade so soon as the instrument has first been placed in position, clasping the fœtal head, and has then been slightly relaxed so as to allow these teeth room to act. Dr. Wallace recently in consultation delivered a child, first crushing its head, when all other instruments had utterly failed. The instrument will not release its hold until either the woman has been completely delivered, or the head of the child has been torn from its body. The price of the instrument is $50.———Dr. Roberts Bartholow, of Cincinnati, has been elected to the chair of Materia Medica and Therapeutics, in Jefferson Medical College, recently made vacant by the death of the lamented Dr. Biddle. Dr. Bartholow is too well known to the profession to require any further introduction at our hands. With Stillé, Wood, Maisch and Bartholow, Philadelphia should now be contented.———Dr. John M. Woodworth, Supervising Surgeon-General of the United States Marine Hospital Service, died at Washington on the 16th inst. He had been ill for several days, with erysipelas and pneumonia. Dr. Woodworth was born in Chemung county, New York, forty-two years ago. He graduated in

medicine at Chicago, in 1862, and entered the volunteer service, becoming Medical Director of the Army of the Tennessee, in which position he gained a great deal of credit for his field hospitals. After the war he lectured at the Chicago Medical College and the University of Chicago, and was Sanitary Inspector of that city at the time of his appointment, in 1871, to the supervision of the Marine Hospital Service, which he did much to develop and systematize. He was the author of the national quarantine act and of the system of weekly sanitary bulletins, which have brought his name so prominently before the public. His death is an irreparable loss to the service that he has conducted with so much ability in the interests of the Government and the seamen, for whose benefit the service was established, and to the cause of public health in America.—*Medical and Surgical Reporter.*

———Dr. Burgess, of San Francisco, reports another successful case of ovariotomy performed by him, strictly after Lister's method. He thinks this is the first time the operation has been performed antiseptically on this coast. All the European operators now follow this method. Spencer Wells and Mr. Thornton, at the Samaritan Free Hospital, being about the last to give in. We believe that within the last two or three years the records of ovariotomy on the Pacific Coast present results equal to the average elsewhere. The patient of Dr. Burgess, we omitted to state, was seventeen years old, and the tumor weighed twenty-eight pounds. Recovery was complete in eighteen days.—*Pacific Medical and Surgical Journal.*———MM. Franck and Boursier, presented a patient to the Société de Biologie, Paris, suffering from abdominal aneurism, and gave as proof of the correctness of the diagnosis, the following symptoms: (1) The pulse in the femoral was not synchronous with the radial pulse, but retarded; (2) increase of arterial tension by lateral compression upon the tumor, thus emptying it. These symptoms, it was argued, would not be present in a solid tumor resting upon the aorta.—*Gazette des Hopitaux.*———A large deputation of citizens of Woking, England, have petitioned the Home Secretary not to permit the establishment of a cremation-pyre in

or near that town, such a project having been under consideration. The *Lancet* takes occasion to denounce severely the "heathen practice" of burning the dead, chiefly because, by destroying all traces of poison and internal injury, it would encourage crime.—*New York Medical Journal.*———J. Milner Fothergill says in the *Philadelphia Times* that hydrobromic acid, with spirit of chloroform and syrup of squill—and if the case be that of a very agreeable lady and a favorite patient, a few drops of spirit of nutmeg might be added—constitutes an excellent and palatable cough medicine.——— In the case of a gendarme suffering from albuminuria and uræmic convulsions, Dr. Sohier administered bromide of potassium in doses of thirty to forty-five grains. Free diuresis was produced, between two and three quarts of urine being passed in one night, and the albumen, which was previously present in large quantities, disappeared entirely. In three other cases the bromide produced similar diuretic effects. Its diuretic action is exerted on healthy persons also. (*Centralbl. f. Chirurgie.—N. Y. Med. Record.*———Dr. William Porter exhibited to the St. Louis Medical Society a pair of casts of the mouth, one taken from a child affected with hereditary syphilis, the other, by way of contrast, from a healthy child. He called attention to the increased height of the bony roof of the mouth in children who are subjects of the disease. The angle of junction of the palatal processes of the superior maxillary bones, together forming the palatal vault, is often more acute than natural in such patients. The teeth are roughened, and the central upper incisors are pegged.—*St. Louis Med. and Surg. Journal.*———The *Medical Herald*, edited by Dr. Dudley S. Reynolds, will make its appearance in Louisville May 1, and be issued monthly from that date. Subscription, two dollars a year. The Herald has the best wishes for a long and successful career.

All communications, remittances, etc., should be addressd to E. S. & D. L. Gaillard, corner Second and Green streets, Louisville, Ky. Subscribers will please note this.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

Adulterated Baking Powders—Prompt Action of the New York and Brooklyn Boards of Health.

Much interest has recently been manifested upon the subject of the baking powders now in general use in every household. It is not the first time that the medical profession has endeavored to institute some reform in this matter, but they have not been able to accomplish any permanent good. Dr. Horsford, of Boston, prepared, some years ago, a thoroughly reliable baking powder; the composition of it was based on scientific principles, and its action was entirely satisfactory, but it was either not sufficiently advertised, or housekeepers preferred cheaper compounds, for very soon it was superseded in the general market and but little heard of.

The New York and Brooklyn Boards of Health have taken decided action in the last few months on this important subject, and it is hoped that their example will be followed in many other cities.

The sanitary superintendent of Brooklyn was directed by the Brooklyn Board of Health to procure samples of the various kinds of baking powders sold in Brooklyn, to have them analyzed, and make a report thereon to the Board. He did so, and his report shows a startling amount of adulteration by alum, and sets forth in plain language the bad results to be expected. He says: "Without going in detail into the constitution of baking powders, it will only be necessary to say that they are made with bicarbonate of soda or carbonate of ammonia and cream of tartar, chemically known as the bitartrate of potassa. These powders are especially used in making biscuits and cakes. Before the days of baking powders, and even now in many families, the cream of tartar and bicarbonate of soda were purchased separately from the grocer, and a baking powder extemporized in each kitchen; but the lack of skill resulting in lumps of soda in the product, led manufacturers to ascertain the proper proportion of these two salts, and to mix them, selling the compound as a baking

powder. These manufacturers claim that the cream of tartar sold in the shops is very variable, and that nothing short of chemical analysis will determine the amount of cream of tartar in each sample; that this the householder can not do for himself, and therefore is unable to combine with it the proper proportion of soda. This variability in the quality of cream of tartar needs the chemist to detect it, and the extensive use of baking powders would seem to indicate that there is a popular demand for them, due to the inability of the average cook to make her biscuits and cakes successfully when she, herself, mixes the cream of tartar and the soda. We have been unable to find in any drug store or grocery good cream of tartar sold at retail for less than 60 cents a pound, while in some places it was as high as 85 cents. Some of the manufacturers, in order to supply a cheap baking powder, have introduced alum as an ingredient, and this seems to be the only satisfactory reason for its use that can be given. Bicarbonate of soda is used in these alum powders, as in the others, and carbonic acid gas is similarly produced.

"In many countries alum has long been used by bakers in bread making. It is claimed that the bread is whiter, and that an inferior quality of flour can, by its use, be palmed o f on the public as of the first quality. The effects of alum on the human body are well known, and are beyond doubt injurious when taken in large quantities, or in small quantities often repeated. All authorities agree in this, and there is no room for discussion.

The report of the Brooklyn Board concludes as follows: "From a careful examination, I am satisfied that the weight of evidence is against the use of alum in baking powders, and that the risks incurred in its use are too great to be incurred for the sake of cheapness alone. The mucous membrane of the stomach and the intestinal canal is a delicate structure, and materials which would produce no effect on the outside skin might irritate and inflame these organs."

In England the adulteration of bread by alum is considered such an abuse as to be forbidden by law. Now, while such a result is not attainable in this country, much may still be done

by the individual and united action of the profession, and it can best be done after the manner of action of the Brooklyn Board of Health.

There are probably more than five hundred kinds of baking powder manufactured in this country, and the majority have only a local sale. Let every board of health in the country from the Atlantic to the Pacific, have the baking powders in use in their vicinities chemically examined and analyzed, and let the results be published. Physicians have for years past expostulated with housekeepers upon the use of these injurious powders, but to so little point that it is safe to say that ninety-nine out of every hundred doctors are themselves the victims of ignorant cooks, and of wives little inclined toward scientific kitchen arrangements. The fact is that women have always been the chief supporters of every form of empiricism which has beset and injured the human race. They have a profound disbelief in theories unsupported by demonstration. As they never saw any one of whom it could be said that he was made seriously ill by the constant use of "quick yeast," so they are unprepared to believe that such is ever, even approximately, the case. They adhere to their belief in the harmlessness of these powders with a firmness worthy of a better cause. They remind one of a remark which Bishop Meade's son made in regard to his father: "He is firm, sir, as firm, sir, as firm as a mule."

It will be seen then, that in meeting this issue physicians will need all of their courage and all of their strength. They are called upon for service exceptionally hard. In striving to improve the public health, they deliberately legislate against their own interest, and in making the fight they find themselves arrayed against that privileged class which hitherto it has been their pleasure to sustain and support. It is hoped, however, that an earnest effort will now be made, and that notwithstanding the serious obstacles in the way of success, that some practical reform will be instituted.

ERRATUM.—In Dr. Richardson's article, page 200, sixth line, instead of words "*Mind would on account of*, read Mind great deal on fact of.

Kentucky State Medical Society.

The annual meeting of the Kentucky State Medical Society will be held at Danville, on the 13th, 14th and 15th of May. It is earnestly desired by all interested in the advancement of the profession in Kentucky that the attendance be full, and the contribution and discussion of papers general. The monument erected by the society over the grave of Ephraim McDowell, "the father of ovariotomy," at Danville, is now completed, and will be dedicated with an appropriate address by Professor S. D. Gross, of Philadelphia, during the session. It is understood that other distinguished members of the profession have signified their intention of being present at these ceremonies.

By means of the Cincinnati Southern R. R. and the L. & N. R. R., there is prompt and easy communication with Danville, from all parts of the state. The appointed committee will make every arrangement for the convenience and accommodation of members. The meeting promises to be one of the largest and most successful ever held by the society. This journal is requested in this connection to call attention to the fact that the society two years since adopted a resolution requiring that those members who intend reading papers during the session shall notify the Secretary or Chairman of the Committee of Arrangements, at least ten days prior to date of meeting. This is necessary to avoid confusion, and to arrange the business of the session. All communications in regard to this, as well as other particulars of the coming meeting, should be addressed to Dr. J. H. Letcher, Secretary, Henderson, Ky., or Dr. L. S. McMurtry, Chairman Committee of Arrangements, Danville, Ky.

To such physicians as have visited Danville, it is unnecessary to speak of the pleasure they will derive from the professional and social intercourse which has in that beautiful little town attained so high a tone. Those who have this pleasure still in store, will find that the profession of Danville rightly enjoy the reputation of being in the foremost rank of cultivated physicians, and hospitable gentlemen.

RICHMOND AND LOUISVILLE

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I. *Clinical Notes on Abscess of the Liver.** By JOHN A. OCTERLONY, A. M., M. D., Visiting Physician to the Louisville City Hospital.

ABSCESS OF LIVER; ASPIRATION; RECOVERY.

Case I.—During the winter, 1873–74, a colored man was admitted to the ward then under my charge, in the Louisville City Hospital. He was about twenty-eight years old and quite strongly built, though considerably reduced in flesh and strength at the time of admission. It was ascertained that he had been employed somewhere in the South, and there contracted chills and fever, from which he suffered for several months. Dysentery, of a comparatively mild type, and not of long duration, set in some time afterward. When first seen by me he bore no evidence of this latter disease, of which he had entirely recovered a good while before. But he did have fever which had already existed for some time, and for this he sought relief at the hospital. This fever had begun with a chill, and ill-defined rigors had subsequently occurred at irregular intervals. The temperature rose quite high, and each daily exacerbation was followed by a remission.

The fact that he had for a long time suffered from malarial poisoning was at first thought to justify the diagnosis of re-

*Read before the Medical Section of the Polytechnic Society, Louisville, Ky.

mittent fever, but further inquiry elicited that he had a sense of fullness and vague uneasiness in the right hypo-chondriac region, and on examination there was found some prominence and tenderness under pressure in this locality, and the liver was discovered to be enlarged.

The enlargement was uniform—there was no irregularity of the surface, no jaundice, and no fluctuation. I now made the diagnosis of abscess of the liver, and introduced the aspirator needle, by means of which a large quantity of rather healthy-looking pus was pumped out. He experienced great relief from the operation, the liver diminished in size, and the fever entirely ceased, but again rose as the abscess re-filled. The aspirator was again used in a few days, and also a third time, with the same result as at first. After the third aspiration there was a constant oozing of pus through the opening made with the needle, and this discharge continued for several weeks. During this time he continued to gain flesh and strength, and when discharged he was a perfect picture of a healthy and robust negro. The treatment throughout had been restorative as well as anti-malarial and antipyretic. About eighteen months after his discharge from the hospital he was seen by me; he then looked and felt as well as ever; was hard at work, and there had been no re-accession of hepatic trouble of any kind. I believe this was the first time the aspirator had been used in the treatment of hepatic abscess in this city, and probably in the state. During his whole stay in the ward, even when he was at the worst, this patient was remarkably placid and cheerful, and at no time did he evince any sign of hypochondriasis.

ABSCESS OF LIVER; SPONTANEOUS RUPTURE INTO URINARY PASSAGES AND INTO BOWEL; RECOVERY.

Case II.—Edward Johnson, aged forty-five, married, born in Germany; a stove-molder by trade; was admitted to the Louisville City Hospital on the 16th August, 1877.

Previous History.—His health was uninterruptedly good until four years ago, when he had chills and fever, which recurred several times for nearly three weeks. He recovered,

but since that time has suffered occasionally from cramps in the stomach and pains in the back. On the 12th of August (four days before admission), violent cramps set in, which lasted a day and night, and were accompanied with rigors; the abdomen became swollen and tender, especially in the right hypochondriac region. He vomited constantly, and the pain continued to be very severe, sharp and shooting, and limited to the right hypochondriac region.

Present Condition.—At the time of admission the patient was evidently suffering most acutely, his countenance indicating great pain and distress. He says there has been no abatement of the pain since the first access. The tongue is dry, but not much coated; he has no desire for food; breathing thoracic and painful; no vomiting; bowels constipated; temperature at 1 P. M. 99¼ F.; pulse, 110; respiration, 26; no jaundice. There is increased resistance and great tenderness over the liver, which is evidently enlarged. The diagnosis of acute hepatitis was made.

Treatment.—Hot poultices over the liver; ⅙ gr. morphia hypodermically every three hours, and ten grains of sulphate of cinchonidia every three hours. Under this treatment his sufferings were soon greatly mitigated.

On the evening of the 16th August the temperature had risen to 100° F. In the morning of the 17th it was 100¼, and by evening it reached 103°.

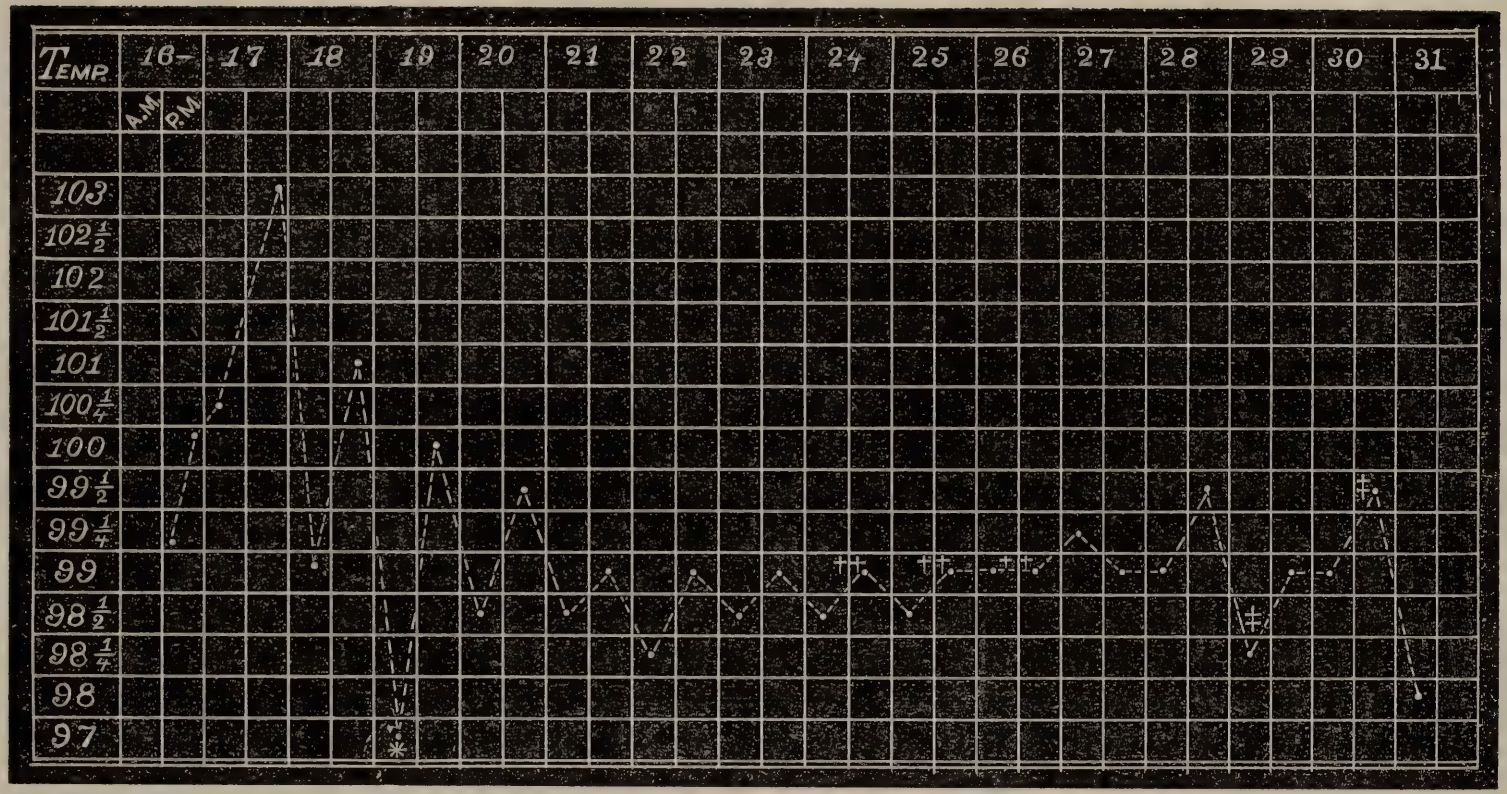
August 18th, 8 o'clock A. M. Temperature had fallen to 99°; in the evening it rose to 101°.

August 19th, in the morning, he was thoroughly cinchonized, and the temperature was only 97°, but in the evening it again mounted to 100°.

On the 20th August temperature had fallen to 98½°, and from that time it never rose higher than 99½°, as may be seen by the table on the following page.

Morphia was given at longer or shorter intervals, according to the severity of the pain, and was omitted altogether as the latter had ceased. During its administration the pulse first went down to 100 per minute, and later it fell to 90, at which rate it continued.

Case II.—Edward Johnson



* Cinchonized. †† Passed pus and blood with urine. ‡ Passed pus by the bowel.

On this day (the 20th August), we began to give cinchonidia, only night and morning, but continued the same dose (10 grains).

Morphia was now given but three times daily, as the pain had much abated. The bowels had been constipated for several days. A dose of castor oil was administered in the evening of the 19th, and it acted freely but comfortably this morning, and the abdomen was less tense after its action. On careful examination the opinion was reached that the patient had a hepatic abscess.

August 23. Applied a blister to the right hypochondriac region, on account of a circumscribed pain there.

August 24. He began early this morning to pass pus and blood with the urine, which was voided more frequently than before.

August 25. Continued to pass blood and pus with the urine all day.

August 26th. There was hardly any tenderness or pain over the liver, and the area of hepatic dullness was much diminished. Very little pus passed since the day before.

August 27. Tongue white and coated; appetite only slight. Complained of pain in the right lumbar region. He could breathe freely, but on very deep inspiration he still felt a sharp pain over the liver; temperature, 99¼; pulse, 75. All discharge of pus and blood with the urine had ceased.

August 28. There was still pain in the right hypochondrium with slight tenderness, but hardly any enlargement of the liver remained. Bowels constipated; morphia to be given only twice a day; cinchonidia withheld.

August 29. He suffered no more pain than yesterday, and that was but little. Bowels had not been moved for two days.

Tongue coated, but appetite improving. Urine very scanty and high colored. Morphia to be given only at bedtime. A dose of castor oil was given, which acted freely within three hours, and a good deal of pus was passed with the fæces.

August 30. The patient sat up, though he still felt quite weak, and suffered some pain in the liver when he tried to walk. Passed some pus from the bowels.

September 1. Perfectly convalescent, and wishes to leave. No further discharge of pus.

May 1, 1878. He consulted me to-day at my office for malaria and indigestion, but was otherwise well, and has had no sign of hepatic trouble since he left the hospital. I made an examination, and found the dimensions of the liver normal, and the hepatic region free from tenderness and pain.

Remarks. It appears very probable that, in this case, the hepatic abscess discharged spontaneously at two different times, and each time at a different point; first, into the pelvis of the kidney or ureter, and the second time into the bowel. The rupture of the abscess into these places was indicated respectively by the discharge of considerable quantities of pus per urethram and per anum. The rapid course of the disease, as well as the favorable termination, were also features of special interest in this case.

PHTHISIS PULMONALIS; ABSCESS OF LIVER; ABSCESS OF BRAIN; BRIGHT'S DISEASE; CONVULSIONS; DEATH.

Case III.—Thomas Mitchell, aet. twenty-three, was admitted to the Louisville City Hospital, during the spring of 1875. My talented friend and former pupil, Dr. P. H. Pendleton, at that time resident physician, first saw him and made the diagnosis of hepatic abscess.

The aspirator was used on two different occasions, and at each time about a quart of pus was pumped out. He experienced great relief from these operations, and improved for some time after. But nearly a month after the last aspiration, he was seized with violent, excruciating headache and high fever; coma set in, and finally convulsions terminated the case. He died on the 2d of June, 1875.

The autopsy was made by me, as I then held the part of Curator to the hospital, and the following notes were taken by me at the time:

Sectio cadaveris of Thomas Mitchell, who died in the Lou-

isville City Hospital, June 2, 1875, held nine hours after death.

External appearance of the body: Height, 5 feet 2 inches; weight not known; not much emaciated; skin pale; no trace of icteroid discoloration.

In the eighth intercostal space, on the right side, on a line drawn perpendicularly from the anterior border of the axilla, is a small opening, which marks the place where the liver was aspirated on the 5th of May, this year ('75), by which a quart of pus was removed. There was no prominence of the right side. Rigor mortis was well marked.

THORACIC CAVITY.

On removing the sternum, the lungs were seen to fully occupy the cavity; they did not collapse on the admission of air. The upper third of the left lung is adherent to the thoracic wall, and at the apex there is a large cavity with smooth walls; there are also several smaller cavities, containing a dark, stinking fluid, and flocculi of yellow pus.

The left lung is firmly adherent to the pericardium, and to the diaphragm; no isolated tubercular formation can be found.

Right lung is emphysematous over the anterior surface; the other surfaces firmly adhered to the chest-walls; no tubercular formation to be seen or felt. The upper portion of the lung occupied by abscesses, with similar contents to those in the left lung. Posteriorily, and toward the base of the lung, is a large abscess, with very fetid contents, and like those just mentioned. The bronchial glands were enlarged, but contained no caseous or calcareous matter. The *pericardium* adherent to the left lung; internal surface normal; contains just enough fluid to moisten the serous membrane.

The heart is pale and somewhat distended; all the cavities contain dark, imperfectly coagulated blood; the ventricles contain soft fibrinous clots. The valves are normal—the organ is not hypertrophied, nor excessively dilated. Under the microscope the muscular fibres appear to be in a state of granular degeneration.

ABDOMINAL CAVITY.

Large and small intestine normal. Stomach much distended with fluid, but healthy in structure. Pancreas appears normal. Spleen is enlarged; on its convex surface the capsule is thickened in two small and sharply circumscribed places, indicating former inflammation. The kidneys are both enlarged, especially the left, and the parenchyma is hyperæmic; the pelves are also congested. The capsule not abnormally adherent. The cortical portion greatly thickened and seemingly lardaceous.

The bladder is contracted, containing barely an ounce of somewhat albuminous and turbid urine, but no tube-casts.

THE LIVER.

The superior surface of the organ to the right of the suspensory ligament, adherent to the diaphragm. The anterior surface of the right lobe adherent to the abdominal wall. At the point of puncture (eighth intercostal space), is a cavity occupying the space between the liver and the abdominal wall, containing pus, which has apparently escaped from the abscess in the liver, through the opening made by the aspirator. This cavity measured about two inches across, its boundaries being formed by the surrounding adhesions already mentioned as glueing the liver to the abdominal wall. Immediately opposite the puncture, and about one inch from the surface, is an abscess measuring ⅞ inch by ⅝ inch. The pus in it of a yellowish green color, and perfectly odorless. This is all that remained of the abscess, from which a quart of pus had been withdrawn not quite a month previously. Immediately around the abscess cavity is a narrow border of tissue, three-sixteenth inch in thickness, and of a bright, buff color. Beyond this is a band of pale, yellow, waxy-looking structure, measuring about 1½ inch in thickness. Beyond this the liver is comparatively normal.

The organ as a whole appears rather pale, and fatty in spots. On the inferior surface is considerable hyperæmia.

THE CRANIAL CAVITY.

The meninges of the brain only slightly injected on the su-

perior aspect, but at the base there is marked congestion, and a considerable quantity of serum and pus under the arachnoid; flocculi of purulent lymph found on the optic commissure, and in the sulci and fissures at the base of the brain. The ventricles contain a large quantity of sero-pus; the brain substance every where softened and congested; the posterior lobes contiguous to the posterior cornua of the lateral ventricles, disorganized and diffluent.

In the centre of the right anterior lobe is an abscess about the size of a hickory nut, containing bright, greenish yellow pus, of thick, creamy consistence. From the facts in this interesting case, it appears likely that phthisis pulmonalis was the primary disease; that the abscess in the liver was secondary and embolic in character, and that the latter is also true of the cerebral abscess.

The marvelous restorative powers of nature were strikingly illustrated in this patient, in whose liver there had existed, hardly a month prior to death, a cavity large enough to contain a quart of pus, yet, at the autopsy, what remained of the abscess was barely enough to hold a teaspoonful. The renal complication, though serious in nature, appears to have played but a subordinate part in the history of the case, and could have contributed but slightly toward the final result.

It is to be regretted that the history of the case while in the hospital is so fragmentary and inadequate; but, as the patient was not under my care, I was not able to obtain more information than that contained in the above notes.

ABSCESS OF LIVER; ABSCESS OF LUNG; REPEATED ASPIRATION; DEATH.

Case IV.—Daniel Ketterer, aet. twenty-seven, born in Germany; single; shoemaker by trade. Admitted to the Louisville City Hospital, June 11, 1878.

PREVIOUS HISTORY.

Has been a moderate drinker; had an attack of acute articular rheumatism in the summer of 1877, which laid him up for five weeks. This was speedily followed by chills, which continued to recur every other day until the fall. In

November, 1877, he had varioloid. About eight weeks previous to admission he had morning and evening chills for several days. A week later he began to suffer from pain in the right hypochondriac region, but could not discover any enlargement there. His appetite remained good, and his bowels regular. He had lost ten pounds in weight from the commencement of his illness.

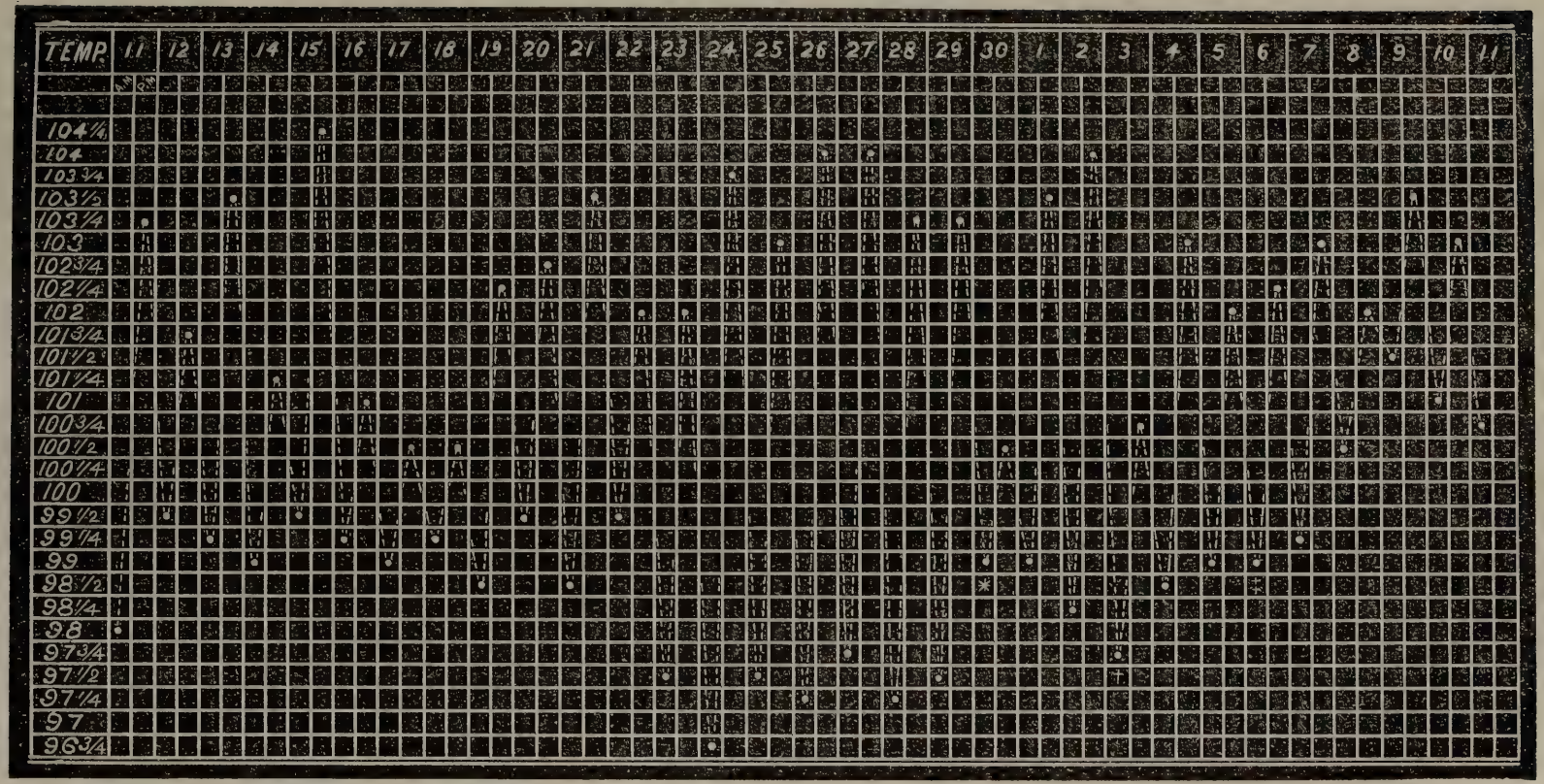
Present condition. He is quite sallow—skin having an icteroid tint; tongue white and furred; pulse 100; respiration 21; temperature 98. There is evident enlargement of the liver, indicated by increased area of dullness and prominence in right hypochondriac region. There is also some tenderness, and he complains of pain in the side, but not in the right shoulder. Appetite moderately good, and bowels open. He was put upon iron and nitro-muriatic acid. In the evening the temperature had risen to 103¼; he was then in addition ordered ten grains sulphate of cinchonidia every four hours, which brought the temperature down temporarily; flaxseed poultices were also applied to the abdomen on the 20th. Diarrhœa having set in, the medicines formerly prescribed were discontinued, and he was put on opium and bismuth, which were continued in varying proportions for several days, until diarrhœa was controlled.

When this patient was first seen by me, immediately after admission, he had no fever; and, in view of his previous malarial disease, it appeared not unlikely that the hepatic enlargement was due to this cause, but the progress of the case induced me within a few hours to make the diagnosis of acute hepatitis. At this time it was not certain that pus had formed, and the patient would not give his consent to the use of the aspirator for the purpose of exploration.

In the meantime the case progressed, and the daily thermometric excursions are indicated by the table on the following page.

The daily record presented nothing of interest until the 30th of June. On the evening of the 29th the temperature was 103¼; pulse, 106; respiration, 18. It was noticeable all through the disease that the pulse and respiration were

Case IV.—Daniel Ketterer.



* Aspirated. † Aspirated. ‡ Aspirated.

quite low in proportion to the temperature, which may have been due to a certain degree of cholesteræmia; skin and conjunctiva of decidedly icteroid hue. On the morning of the 30th of June the liver was found still further enlarged, as indicated by palpation and percussion, and the resistance was decidedly less. As there was now no doubt that the liver contained pus, I introduced the aspirator needle, and withdrew one pint and a half of thick, creamy and somewhat offensive matter. The relief experienced was marked and immediate, and in the evening the temperature was 100½, although the day before at the same hour it had reached 103.

July 1. Patient slept better than he had slept for a long time; appetite better; temperature 8 o'clock A. M., 98¾; 8 o'clock P. M. 105½; pulse 114, and respiration 24.

July 2. Rested badly; eats very little; abscess filling up again. 8 A. M., temperature 98¼; pulse, 88; respiration, 21; 8 P. M., temperature 104. He was very weak, and the house physician found it necessary to give him carbonate of ammonia and digitalis.

July 3. Under the influence of cinchonidia the temperature had gone down to 97¾ this morning, but the patient had slept badly, and felt exhausted; skin covered with a profuse perspiration; pulse, 92; respiratton, 17. The right hypochondrium was again very prominent, and the aspirator was used a second time. On this occasion a quart of pus was removed; it was very yellow, and thicker and more offensive than that withdrawn by the first aspiration. On standing it assumed a greenish color, and when examined under the microscope it was found to contain pus-cells, blood corpuscles, liver-cells, fat globules, connective tissue fibres, &c. The patient seemed somewhat relieved by the aspiration, and at noon his temperature was only 98; in the evening it rose to 100¾.

July 4. Pulse, 92; respiration, 20; temperature, 98½. Patient looked and felt very badly; surface bathed in perspiration; complained of pain in the right side; had no desire for food; he lay all forenoon in a semi-comatose condition. In the afternoon he felt stronger, and his mental condition im-

proved; 8 P. M.—pulse, 104; respiration, 17; temperature, 103. Right hypochondrium again becoming prominent. Began to have diarrhœa again.

July 5. Patient seemed weaker, and hepatic region very prominent; in other respects his condition was unchanged. Used the aspirator again, and removed a few ounces of thin pus, mixed with blood. Diarrhœa continued.

July 7. The patient's condition very much the same. The hepatic region quite prominent. The aspirator needle was introduced, but no fluid came away. The needle was freely moved about in every direction, giving the impression that there was a large cavity. A few drops of pus being at last obtained, they were examined microscopically, and were found to contain connective tissue fibre, and debris of hepatic structure. During the afternoon he suffered a good deal of pain, and seemed to be in collapse; pulse, 144—feeble and fluttering. After free stimulation he rallied somewhat, and at 8 o'clock P. M. he felt considerably better; pulse, 98; temperature, 103.

July 8. Had an attack of syncope, lasting an hour. Rallied after the administration of digitalis and whisky. He had severe pain in right side, for which morphia was given. Eight o'clock A. M.—Pulse, 88; respiration, 35; temperature, 100½. Nine o'clock P. M.—Pulse, 108; respiration, 24; temperature, 102.

July 9. At 1 o'clock A. M. he had another "sinking spell," as the nurse called it, but rallied as before. Complained of severe pain in right hypochondrium, which was relieved by a hypodermic injection of morphia. He began to-day to cough and spit up thick offensive matter, similar to that removed through the aspirator. Under the microscope it was seen to consist of pus-cells and a few red blood corpuscles, with numerous fat globules. The mental faculties were much disordered; skin cold and clammy; pulse, 140—feeble and fluttering. In the evening it fell to 130; respiration, 30; temperature, 103½; considerable diarrhœa.

July 10. Patient delirious; has less cough and expectoration; otherwise, no material change noticed.

July 11. The diarrhœa continued the same as during the past week; the evacuations, six in the twenty-four hours, were dark, thin, and exceedingly offensive; patient extremely emaciated and feeble. He was delirious almost the whole day, and died at 9:25 P. M. Temperature when last taken, 100¾ in the forenoon.

Sectio cadaveris sixteen hours after death. Body extremely emaciated, of dark, icteroid hue; rigor mortis slightly marked; post mortem discoloration in right iliac fossa. Right hypochondriac region very prominent.

Cranial cavity not examined.

Thoracic cavity. Right lung extensively adherent to chest-walls; inferior surface firmly adherent to the diaphragm. Left lung adherent throughout its whole extent.

Pericardium normal. Its cavity contained three ounces of dark, reddish serum. Heart dilated and flabby, several maculæ albidæ on its surface. Left ventricle empty; mitral valve thickened and congested; aortic valves congested; aorta normal; right ventricle empty of blood, but contained a small, dense clot, antemortem (?); tricuspid valve congested; chordæ tendinæ thickened. Left auricle distended, with a large clot (antemortem?).

ABDOMINAL CAVITY.

Liver. Right lobe adherent to diaphragm and abdominal wall. In the upper portion of the right lobe is a large abscess cavity, whose roof is formed by the diaphragm. This abscess in process of repair. It communicates with an abscess cavity in the base of the right lung, which, when examined from below, is found to be hepatized in its central and inferior portion. Weight of the liver, 3½ pounds. Spleen enlarged and congested. Pancreas normal.

Kidneys are congested and enlarged. Capsules adherent. Left kidney weighs 7½ ounces; right kidney weighs 7¼ ounces. Intestine somewhat congested.

REMARKS.

In this report, condensed from the daily record of the case, I have omitted some details of the treatment, which was anti-

pyretic and supportive. Prominent symptoms were treated as they arose. In reviewing the case, my first conviction, that aspiration ought to have been earlier employed, has grown stronger. I regret that the patient could not be sooner persuaded to submit to it. When it was resorted to it gave prompt and marked, though but temporary relief. At the autopsy were seen distinct evidences that the process of repair had begun in the liver, and it is not unlikely that, had not the disease implicated the lung, the case might have had a favorable termination.

ART. II. *A New Drainage Tent.* By G. E. SUSSDORFF, M. D., New York.

Much has been written within the last few years respecting the treatment of uterine disease by means of tents and various other expanding instruments; but great as has been the advancement of our knowledge of the subject, and great as has been the improvement in instruments for effecting dilatation of the cervix, it must nevertheless be admitted that the practice is still possessed of no small degree of danger.

To the latter fact, in a great measure, is due the distrust with which this plan of treatment is regarded by those not specialists, and the reluctance with which it is undertaken, even by those whose skill and experience is unquestionably large.

That dilatation, in spite of its risks, frequently proves of positive and lasting benefit in many instances, no one can deny, and all are ready to admit that, disarmed of its perils, it at once becomes a resource of incalculable value.

In attempting a consideration of this matter, the principal sources of danger as found by common experience to exist in the different tents used for affecting dilatation, will be briefly summed up, and a new instrument and the principle upon which it is constructed described, by which the chief, if not all, the objections to treatment by dilatation are likely to be obviated.

Leaving out metallic expand-instruments, which at best are quite limited in their application and usefulness, these considerations will be confined to the several kinds of tents in general use.

Sponge, no matter how well made into tents, is rough and hard to introduce; it quickly becomes offensive, and from decomposition while in the cervix, is specially calculated to induce septic poisoning of the blood. The pressure it exerts has but little alterative influence, though its expanding qualities are good.

In withdrawing these tents, pieces are often broken off, and remain in the uterine cavity, giving much trouble; or particles of the sponge sometimes become interlaced with the mucous tissue, and cling to its surface, so that when the tent is taken away, they either remain adherent, or are torn out, leaving nuclei for other troubles, sometimes hard to combat.

Sea-tangle (Laminaria) in some respects is better than sponge. It is easily introduced, but less easily retained, and, being slow to expand, often slips out of the cervix into the vagina.

When fully expanded it has an irregular, modulated surface, for which reason it does not distribute pressure equally or evenly, and though less apt to decompose than sponge, is still susceptible of inducing septic poisoning of the blood.

Tupelo, according to my experience, is much better and safer than either sponge or sea-tangle; still all solid tents, no matter from what material made, or how carefully medicated by antiseptics, are always of themselves a prime source of danger. This is not so much due to faulty material of which they are made, as it is to the fact that they are *solid*, and act as complete plugs of the cervical outlet of the uterus; the correctness of this statement will become apparent with a little further explanation. Every kind of tent, while *in situ*, should be regarded as a foreign body, which effects these parts in an analogous manner as other mucous surfaces of the body are when similarly intruded upon.

Tents, when first beginning to expand, irritate the parts, and excite pain more or less severe, and an unusual secretion

from the uterine mucous surface. Should the tent be expelled, the pain and secretion quickly subside; but so long as it remains in place, these symptoms usually continue. The increase in the secretion of mucus, and the tenesmic-like pains which are present under these circumstances, are evidences of an effort on the part of the uterus to throw off the attending substances lodged in its cervix and cavity.

When a solid tent is allowed to remain for some hours in the cervix of such cases as are predisposed to irritation or inflammation, and the accumulated secretions can not escape into the vagina, the uterine cavity and fallopian tubes become so much distended by their presence, that inflammation in supra-adjacent tissues is thereby induced, or what occurs perhaps more frequently, is the escape through the fallopian tubes of some of the pent-up fluid into the abdominal cavity, from which attacks of pelvic peritonitis or pelvic cellulitis are suddenly lighted up, and sometimes, when decomposition has occurred, as in the case of sponge tents, septicæmia is the consequence.

However fertile in mischief the material of which tents are made may be, their chief danger is due to the fact that they prevent the free escape of the secretions they excite, because they are solid.

To be convinced that more or less mucus or muco-purulent matter is always present in the uterine cavity when solid tents are used, one need only use a speculum, and obseve it flow away after withdrawing the tent.

The advantage therefore of an instrument that will effect both complete and even dilatation, and at the same time permit the easy escape of the uterine secretions as soon as found, at once becomes apparent. These objects are well attained by means of the instrument illustrated above, which for want of a better name, I have called a drainage tent.

The expanding part is made of compressed tupelo, the drainage part of a tube of pure stannium, which runs through the centre of the tupelo. The tube is funnel-shaped at both

extremities, to admit of easy entrance and exit. In this combination there is expanding force and drainage, whereby the benefits of dilatation may be obtained with none of the dangers from retained secretions.

Another advantage this instrument possesses over other tents, consists in its being self-retaining. By referring to the illustration, it will be observed that the cord attached to one end of the tent does not pass *through* its substance, but surrounds it, being let in by a shallow groove.

This arrangement prevents the tupelo from swelling where the cord is tied, and for a short distance beyond, giving the tent when fully swelled a shape something like an egg. When *in situ* the external os is therefore comparatively but little dilated, to the upper parts of the cervix, so that the tent is held in place by the tissues alone. It is scarcely ever necessary to apply other support to keep it in place, except in some cases of prolapsus.

This instrument was originally constructed for the purpose of applying dilatation to the cervical canal *during* the menstrual molimen, for the cure of dysmenorrhœa, which plan I still pursue with good results.* At the time the below-cited paper was published, *solid* tupelo tents were recommended in the preliminary treatment, but with increasing experience, I have abandoned them altogether, and use the smaller drainage ones instead. From experience with these tents in dysmenorrhœa, and from having recognized the source of danger as already stated from the ordinary method of dilatation by solid tent, I have extended this application to all cases requiring such treatment, with results of the most satisfactory nature.

Besides the positive advantage of the tube, these tents have other qualities to recommend them. Most of these points have already been stated, but it will do to repeat them again.

First—The drainage tents are easily introduced, being smooth and firm.

Second—They do not fall out of place, as they quickly absorb moisture and become conical, or egg-shaped.

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*See article in New York Medical Record, volume 12, No. 43, October 27, 1877: "The Etiology of Dysmenorrhœa considered in relation to a new mechanical plan of treatment."

Third—They are probably of antiseptic nature, or at least will not decompose the fluids with which they come in contact, and, being purely vegetable, have none of the offensiveness of sponge and sea-tangle.

Fourth—The rapidity with which they expand when in contact with the tissues and secretions of the parts, is perhaps one of their chief advantages.

Fifth—The firm and even pressure they exert, is well calculated to exercise a pronounced alterative influence, being superior in this respect to the others.

Sixth—They will not break or fracture *when moist*, nor will they peel off and leave small particles adherent to the tissues.

If gentle and steady traction is made upon the cord attached for a few moments, no difficulty will be encountered in removing them, or injury to the parts inflicted.

Dr. Thos. Addis Emmet, of this city, recently suggested that these tents be given a slight curve in cases of flexion at the neck of the uterus, and I am now having them so made by Messrs. Tieman & Co., who manufacture them according to a scale designed to meet all ordinary requirements.

In calling attention to this instrument as new, I do not ignore the fact that to Dr. Greenhalgh, of London, is due the credit of first introducing the hollow sea-tangle tent; but if I am correctly informed, the opening was made only to facilitate the swelling of the tent, and not for the purpose of drainage, which it does *not* accomplish, as the opening soon closes when the material swells. The introduction of tubes into the uterus, for the purpose of drainage, has also been practiced for some time, but, as far as I am aware, the two principles of dilatation and drainage have never been heretofore combined in one instrument.

There are other points relating to the treatment of uterine disease by dilatation, which should perhaps be here noted; but it has only been my object in this paper simply to describe the instrument, and the purpose it is designed to fulfill, and will rest satisfied if this has been done clearly, feeling assured that practical experience with it will prove its best recommendation to confidence.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—*Provisional Report on the Effect of Quinine upon the Cerebral Circulation.* By MARY PUTNAM JACOBI, M. D., Professor of Materia Medica in the Women's Medical College, N. Y.

The use of quinine in certain forms of presumed cerebral hyperæmia was suggested to me, partly by some clinical experiences of Galezowski of Paris, partly by some physiological experiments of my own.

The first series of the latter has already been published in the *American Journal of Medical Sciences* for last July. They consisted in sphygmographic observations on the brain of a boy, who had been trepanned eighteen months previously for a fracture of the skull. A portion of brain securely covered by membrane remained exposed, and its pulsations could be observed by the eye, and measured by the sphygmograph as easily as those of any superficial artery. The character of the traces thus obtained was profoundly modified by the influence of drugs. When twenty grains of quinine had been given to the boy, two hours previous to taking the trace, this was found to show a very marked diminution in the intracranial tensions and in the resistance offered by the brain to the systole of the heart. After the expansion caused by this systole, the collapse of the cerebral mass was more sudden and extensive than under any other circumstances. At the same time the membranes covering the brain were depressed below the level of the cranial bones. All these circumstances tended to prove that under the influence of a "sedative" dose of quinine, which in health had lowered the rectal temperature one degree, the amount of blood contained in the brain was diminished.

A new opportunity has recently offered itself to me for making similar observations on the trepanned brain of a human subject. The case, however, was much less favorable for observation than the first one, for the opening in the skull

was much smaller and the range of excursion of the cerebral pulse much more limited.

It is impossible to apply the levers of a Mahomed's sphygmograph, which had been used in the first case; but by means of Pond's sphygmograph traces were obtained showing, as before, considerable modification under the influence of twenty grains of quinine. It must be confessed, however, that these are more difficult to interpret. As compared with a normal cerebral trace from the same subject, the percussion stroke is much lower and more oblique, the systolic apex more rounded and passing tidal wave, while the dicrotic elevation rises slightly above the level of the systolic apex.

These characters taken by themselves would indicate diminished force in the contraction of the heart throwing blood into the brain, and rather an increase in the amount of blood contained in the brain, with consequent increase of intracranial tensions.

The radial pulse showed, as compared with the normal, a much less marked diminution in the force of the cardiac contraction; whence we must infer again that the small percussion stroke in the cerebral trace was due rather to increased resistance offered by the cerebral mass, than to diminished propulsive energy of the heart.

It is possible that the difference between these results and those obtained in the first case, is due to the different ages of the subjects submitted to the same dose (20 grs.); the first was a boy of ten, the second a young man of twenty.

The clinical cases in which I have been led to use quinine are those where a diagnosis had been made of stasis of the cerebral circulation, accompanied by symptoms of general depression, and either no fever or very moderate fever. In five cases on my notes some other medication was used in connection with the quinine; and in some of these the case continued to progress into a fatal meningitis.

The case, which seems to me sufficiently pure, is the following:

On the 15th of last February a child, Joseph Johns, æt. 10 months, was brought to me at the dispensary with the

following history: He was said to have been taken ill a week previously with high fever and vomiting, and all the next day "kept working on the right side." Continued to vomit once each day, retaining, however, much of his food, rolled the head from side to side and seemed scarcely conscious, was constipated, though usually subject to diarrhœa. When I saw the child he was very heavy and drowsy, lying on his back with head retracted, and some little rigidity of the neck. He kept moaning frequently. Temperature in rectum was 101°. The head was hot out of proprotion to the rest of the body. The pupils were normal, the face not flushed, the pulse regular, the tongue clean, constipation persisted. There was nothing abnormal in the lungs.

A diagnosis was made of a reflex hyperæmia of the brain, probably initiated by gastro-intestinal irritation. He was ordered a purgative dose of castor oil, and fifteen grains of quinine to be taken in three doses at two hours interval.

On the 16th child was much better. The retraction and rolling of the head had ceased, as also the vomiting. There had been one passage after the oil; the expression of the face had become natural.

Was ordered five grains of quinine on the 17th. The fifteen grains and the purgative were repeated. On the 18th, child quite recovered. Convalescence remained permanent.

Two comments may be made on this case:

1st. There could not have been, as there was presumed not to be, gastric catarrh at the time of giving quinine, to which the vomiting could be ascribed. It was to be excluded not merely by the clean tongue, but by the success of quinine in arresting the vomiting when it should have aggravated a gastric catarrh.

2d. The revival of the child can not be attributed to a tonic action of quinine on the circulation; for fifteen grains administered in the course of three hours can act only as a powerful sedative to so young a child. I attribute the effect therefore, to a depletion of the cerebral blood-vessels, brought about partly by the action on the heart, partly by a direct effect on the vessels.

I may here be permitted to refer to the interesting experiments of Cheirone, of Naples, published in the *Gazette Hebdomadaire* for 1875.

His experiments would show that quinine increases the diastole of the heart. At first the systole is indirectly increased on this account, hence the increased energy of the cardiac contractions obtained by small doses. With larger doses the diastole altogether predominates, the systole becomes weaker, and the heart is finally arrested in diastole. This increase of the diastole causes an increased aspiration of blood to the heart, and after arrest, it is found by actual measurement to be much enlarged.

Now an increased aspiration towards the heart should exercise a marked influence upon depleting distended veins, both in the brain and in the lungs. The influence of quinine upon pulmonary congestions will hardly be disputed: we might already, therefore, be led to look for an analogous action in hyperæmia of the brain, unless it were here counterbalanced by some other effect peculiar to this organ.

Cheirone does not occupy himself with the question of the brain, but reported some further experiments made to elucidate the action of quinine upon the blood-vessels. The observations were made upon the ear of a rabbit. I have thought it worth while to repeat them in connection with the question of the cerebral circulation, because other experiments with quinine—as those of Dr. Hammond—have estimated the effect of the drug upon the brain, exclusively from its observed effect on the tympanum, conjunctiva and blood-vessels of the face. A young rabbit was taken, white, and with perfectly transparent ears. Before the experiment these ears were pale and cool; no network of vessels was visible between the three main blood-vessels. An acid solution of sulphate of quinine was injected subcutaneously. During the injection, that is, when the animal had received about seven centigrams of quinine, there was a sudden dilatation of the aural vessels. The central artery began to pulsate and the ears became hot. The pupils, which had been widely dilated, contracted, and the respiration was ac-

celerated. The remaining eight centigrams were thrown into the stomach, making fifteen centigrams or about two and a half grains in all. In half an hour the pulsations of the central artery had ceased, but the general injection of the ears persisted. The pupil remained contracted and the conjunctiva was somewhat injected.

In one hour the injection of the ears had entirely disappeared. The ears were pale and cool as at first.

New subcutaneous injection of seven centigrams. During the injection the ears again began to redden, and in five minutes from the beginning of the injection they were highly hyperæmic. In another minute they paled, even the central artery sensibly contracting; in another minute they dilated again. These alterations succeeded each other at intervals of a minute for another five minutes. After ten minutes from the completion of the injection, the ears remained pale. Half an hour later, two and a half hours from first injection, a third injection was made; this time of fifteen centigrams. The ears did not flush nearly so rapidly as before; not until seven minutes from the completion of the injection. There were one or two alternations of flushing and paleness, but in fifteen minutes the flushing persisted. The central artery then pulsated, but not so strongly as after the first and second injections of seven centigrams each. The ears remained intensely injected an hour later, and two hours after were reported to be unchanged, but of this I am not quite sure. Five hours later I found them pale and cool. These two last injections produced no noticeable effect on the eyes. After this third experiment, the rabbit had received by injection thirty centigrams of sulphate of quinine, and by ingestion, seven more.

After the third injection he became much quieter but not really stupefied.

These results quite corresponded to those of Cheirone, notably in the fact that the marked dilation of the blood-vessels was the initial phenomenon, and at no time did a contraction take place as by vasor-motor irritation. Another coincidence consisted in the curious rhythmic alternations of

flushing and paleness preceding the definite flushing, and which Cheirone also noticed. He calls this diastole of the blood-vessels exactly analogous to the diastole of the heart, and produced by the same mechanism, namely, a direct effect on the ultimate molecules of the muscular fibre.

The results of these experiments finally, entirely agree with those made by Dr. Hammond on himself. It was important to ascertain whether the flushing of the external cranial circulation was accompanied by a similar condition of that of the brain. Another white rabbit was selected, of exactly the same size and age, and a piece of the parietal bone on the right side, one inch long and half an inch broad, easily removed. Only a single indentation with the pin of the trephine was required; the bone was then easily cut away with scissors and pincers. No ether was given, but the rabbit remained quite quiet after the trephine pin was removed. The hæmorrhage was slight; but so soon as the brain was exposed to the air its vessels became so much distended with blood, that observations upon their further dilatation would have been impossible. The scalp was therefore drawn together over the exposed brain, and the animal left in quiet till the next morning.

Eighteen hours after the trepanning he was found well and lively, having eaten much cabbage since the operation. The exposed portion of the brain was still somewhat hyperæmiated, and protruded slightly; one portion, however, surrounding a central ring of permanently dilated vessels was pale, and could be observed with a magnifying glass.

At 10.30 A. M., a first subcutaneous injection of fifteen centigrams of sulphate of quinine in an acid solution was given.

At 11 there was no noticeable alteration of the circulation, either in the ears or the pia mater of the white exposed surface of the brain. Thus the trepanned rabbit already exhibited a marked difference from the non-operated one in omitting the rapid flushing of the aural circulation, as a first effect of quinine.

Not examined again until 12.45; then the ears were found

much injected, but less so than had been the case with the untrepanned rabbit. No perceptible alteration in pia. Thirty centigrams of quinine were subcutaneously injected.

1.30; injection of ears persisted. No change of pia.

The exposed brain was then covered by a thin piece of glass held in place by the scalp, and the animal left till the next morning.

The next morning the hernia of the brain was found much diminished; but it was so uniformly hyperæmiated that further observation was impossible; the hyperæmia, however, though diffused, was much less intense than on preceding day. The rabbit had eaten and seemed perfectly well. Ears pale and cool; the scalp was sewn over the brain. A piece of the parietal bone on the left side was now removed. As before, there was immediate hyperæmia, though the brain had not been in the least injured.

It was covered with glass and left for three hours.

At 12.10 the greater part of the exposed surface was still much hyperæmiated, and there was some effusion of blood. One clear space remained, showing under the magnifying glass, first, one rather large vein; second, one fine, long artery with two short branches. third, one short artery at right-angles to vein; fourth, a small patch of capillary injec tion. The rest was white. These vessels were thus counted in order, to insure accuracy in comparing their condition with that which might exist after the quinine. I am certain that without such precaution and the use of the magnifying glass, it is not possible to rely upon observations on the pia mater vessels of the rabbit.

Fifteen centigrams of quinine were injected as before (12.10).

At 12.30, no change in ears or pia, which had been continuously observed. Second injection of 0.15.

12.55; no change. Animal had seemed somewhat stupefied after injection. Still quiet. Heart beat very softly.

At 1, third injection of 0.15. Animal seemed stupefied; fell flat on his fore paws. No change in ears or pia during ten minutes.

1.45; found the ears injected for the first time, their central artery dilating and pulsating strongly. But the pia in the observed territory was unchanged. No general increase in color, and vessels on counting found to be the same.

Rabbit not observed again until three, was then found in an epileptic convulsion, facial muscles on the left side, and the left fore-paw being agitated in clonic convulsions. The pupils were dilated, the teeth ground together, the lips retracted. There were no convulsions of the other limbs. The ears had become pale and cool. The convulsions affected the side opposite to that which had been trepanned two days before, and which for six hours had been completely covered by the scalp. It appeared as if a meningitis might be setting in, but on removing the stitches and re-exposing the brain on the right side, it was found to be in quite a normal condition; it had subsided into the cranium, and had lost the injected appearance observed in the morning. There was no trace of commencing meningitis.

On the left side of the brain, the same side as that which was agitated by the convulsion, and which had been exposed the same day, it was noticed that, during the convulsions, the brain protruded, but did not become more injected. The convulsions only lasted from a quarter to half a minute. Immediately afterwards the brain became depressed, even a little below the level of the cranium, and at the same time began, for the first time since the exposure, to oscillate synchronously with the respiration.

The respiration was markedly accelerated for a few moments after cessation of the convulsions. I attributed the protrusion of the brain to increased congestion during partial arrest of the respiration; the subsequent depression, to increased aspiration of venous blood, at the return of respiration; and the oscillations, to the diminished tension of the brain due to the same venous depletion.

The convulsions were repeated with exactly the same characters every fifteen minutes during the next hour, and for two hours later, it seemed to be the same. During all this time the pia mater over the observed territory remained unchanged. The rabbit died during the night.

From this double series of experiments, the following conclusions are unavoidable:

First—Quinine in small doses (7 to 15 centigrams) causes active dilation of the external cranial circulation in the rabbit.

Second—In larger doses this was more slowly produced, but when produced was much more persistent.

Third—In a trepanned rabbit this effect on the ears was much more slowly produced, and only at much larger doses. It then was as persistent as in the non-operated animal.

Fourth—Dilatation of the aural blood-vessels may be produced, while those of the pia mater remain absolutely unchanged.

A categorical conclusion can not be drawn from the convulsions—at least I have not as yet drawn one. But the absence of any new irritation on the right side of the brain, the apparent starting-point of the convulsion; the marked diminution of irritation here in fact, at the time of the convulsion, and diminishing irritation on the opposite side, would seem to exclude a traumatic origin to the convulsions.

I ask myself whether the lowered intra-cranial tension, observed just after the convulsion, were not really the cause of it; existing before as a consequence of the accumulated effect of larger doses of quinine, which effect was only temporarily effaced during the convulsion?

From this point of view we should infer that the convulsion was caused by the greater mobility given to the brain, when the effect of lowering of the tension was combined with exposure of the brain to atmospheric pressure.

To these experiments upon rabbits, I might perhaps add the negative result of some experiments made by myself a year ago upon dogs, with Dr. Hammond's cephalometer. Six experiments were made, of which number I only consider two as satisfactory. In these the instrument was accurately adjusted to the cranial opening made by the trepan, after removal of the dura mater. Ten grains of quinine in acid solution were then injected sub-cutaneously, and the fluid in the glass-tube of the instrument watched uninterruptedly during two hours. Not the least change occurred in its level.—*Archives of Medicine.*

ABSTRACT DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."

CONDUCTED BY EDWARD MILLER, M. D., LOUISVILLE, KY.

THE DIAGNOSTIC VALUE OF WESTPHAL'S PATELLAR TENDON REFLEX. By C. H. HUGHES, M. D.—Diseases of the nervous system have become so numerous of late years, that the practitioner eagerly welcomes every new sign that aids him in their diagnosis. Such a sign Professor Westphal, of Berlin, claims to have discovered in the absence of what he calls the patellar tendon reflex, in progressive locomotor ataxia, or posterior spinal sclerosis. His statement that the leg phenomenon was constantly absent in undoubted cases of tabes dorsalis, has found confirmation from other observers, among the latest, Dr. Thomas Buzzard, in *Brain*, for July, and in the *London Lancet* for October, and Althaus, in the *American Journal of Medical Sciences* for the same month; also, in a late lecture of E. C. Seguin's. This tendon reflex is best elicited by striking sharply with some hard substance the naked skin, just below the patellar, so as to affect the tendon of the quadriceps extensor femoris, between the knee-cap and its point of insertion into the tibia, while the patient's leg hangs loosely from a table, or is crossed at a right angle over the knee of the examining physician (Dr. Hughes's own method), or over the patient's opposite knee (which is Westphal's procedure). Other tendons, such as those of the triceps extensor and tendo Achillis, respond in a similar manner. The responsive upward jerk of the foot is not due to any effect upon the cutaneous nerves, for it takes place when the skin is rendered insensible by artificially or morbidly induced anæsthesia, provided the posterior columns of the spinal cord are intact, and is exaggerated in lateral sclerosis. As no amount of cutaneous irritation will excite this reflex action, it has been concluded that the irritation of the blow is conveyed through the nerve fibres that go from the tendon to the posterior columns of the cord, thence passing to the antero-lateral columns, and back along the motor nerves to the mus-

cles of the irritated tendon. The significance of this sign is readily seen. If there be complete sclerosis at or immediately above the entrance of the sixth lumbar nerves, there will be no reflex response to a smart blow upon the patellar tendon, and it is rare for the lumbar portion of the cord not to be affected in tabes dorsalis. In the commencement of the disease, before sclerosis becomes complete at that part of the cord, we may expect reflex action exaggerated, as in some cases of slowly progressive descending sclerosis, commencing high up the cord. This new sign has been accepted by clever writers on the diseases of the nervous system as infallible. Dr. Buzzard, although he places implicit confidence in this sign, yet thinks, and Dr. Hughes agrees with him, that a positive answer can not be given as to the cause of the phenomenon, or its absence in posterior spinal sclerosis. Dr. Allan McLane Hamilton says in this disease that reflex action is usually exaggerated. Dr. Hughes has not found the tendon reflex absent in every case of tabes dorsalis, nor can he see why it should be, unless the sclerosis is complete. In the earlier stages, or in stages of marked improvement, it might be even increased. Dr. Hughes has found it absent or scarcely perceptible in healthy adults and children. It varies in healthy persons just as cutaneous reflex sensibility does, and may be influenced by intra-cranial states, as in coma and profound congestion. The value of the absence of the tendon reflex should be regarded as diagnostic, only in comparison with the degree of tendonous reflexion natural to the individual, a thing difficult to ascertain, as it is not sought for in the healthy. Dr. Hughes therefore concludes that the absence of this symptom does not seal the fate of a patient, nor need there necessarily be any disease of the spine diagnosed from the absence of the phenomenon, without other corroborating symptoms.—*St. Louis Med. and Surg. Journal.*

LUMBAGO. By ALFRED STILLÉ, M. D.—Lumbago is always a distressing disease. In its chronic form it is usually seen in persons who labor in the open air, in all sorts of weather, and in a stooping posture. It is brought on by violent muscular

exertion, which weakens the muscles, and renders them more susceptible to the effects of cold. This must not be confounded with laceration of the muscular fibres, which is not lumbago. Lumbago is frequently the result of exposure to drafts of cold air, and often follows from lying on damp ground in the summer. The muscles on both sides of the spine are usually affected, occasionally on only one side, but as a general rule, when the pain is only on one side, the case is not lumbago. The pain is great, and aggravated by movement. The pain may be lancinating, tearing, boring or grinding, and may be limited to the affected muscle, or may extend to the surrounding parts. In every position the patient assumes, excepting two, the pain is severe; these positions are sitting down and leaning forward over the back of a chair, &c., or lying flat on the back. Lumbago always begins acutely, and lasts but a few days if properly treated. Neglected, it becomes chronic, and the suffering hardly ever stops until the weather changes. Once present, the disease is apt to return under the influence of the original cause. The diagnosis is not always easy. The pain in the muscle may be due to nervous causes, as a consequence of fevers, or the womb may be displaced. It is found as an accompaniment of scurvy, or of psoas abscess, or of aneurism of the aorta, or in kidney disease. In all of these affections, however, the pain is essentially chronic. In acute lumbago the attack may nearly always be traced to its cause, and chronic lumbago has been preceded by the acute. In other diseases peculiar symptoms will be found. Moreover, in lumbago, the pain in the limb is always excited by contraction of the lumbar muscles, and is of an acute character. The treatment of acute lumbago is very simple and very effective. It consists in the application of scarifying cups to the affected muscles, and the immediate use of narcotic fomentations, as a bag of hops soaked in hot water. The various stimulating and anodyne liniments are also excellent. If opiates are employed they should be used early, and best in the form of Dover's powder. The great pain of lumbago is at once and very often permanently stopped by the hypodermic injection into

the affected muscle of a solution containing one-eightieth of a grain of atropia, and one-eighth of a grain of morphia. Iodide of potassium is also a most valuable remedy in this disease; in fact it seems to have more influence over this form of rheumatism than any other. Dr. Graves, of Dublin, who was the first one reported to have used it, found that in doses of five to ten grains given every three or four hours, its effects were truly wonderful. Chronic lumbago is very difficult to treat. The most useful class of remedies are the various forms of counter-irritants, such as blisters, sinapisms, the actual cautery, &c. Local friction and massage may do good where counter-irritants have failed. Dr. Stillé relies most upon the influence of tepid water, applied in the shape of a wet compress, kept in constant contact, and afterwards friction with a coarse cloth or a skin brush. Advantage is often derived from rubbing the parts briskly with a metallic brush, or from the application of the electric brush, or a cloth being tied over the lumbar muscles, which are ironed thoroughly two or three times a day with a hot iron. A person subject to attacks of lumbago should wear constantly a Burgundy pitch plaster, or one of the porous plasters lately patented. These plasters protect the parts, and afford support to the affected muscles. Guaiacum sometimes does great good, and so do sulphur baths, or the continuous use of sulphur water. The treatment of chronic lumbago, if it is to be at all successful, must be constantly changed.—*Hospital Gazette.*

Poultices. By T. Lauder Brunton, M. D.—Although the effect of poultices is different from that of blisters, they are ultimately productive of similar relief. Thus, if a finger is inflamed by a thorn run into it, it may be relieved by being put into cold water, or into a warm poultice. Both methods lessen the blood pressure in the vessels where stasis has already taken place. The cold contracts the arteries, shuts off the supply of blood to the inflamed part, and lessens the pressure in the blocked capillaries. The warm poultice dilates the vessels around the point of stasis, affording

the blood a ready exit into the veins, and thus also diminishes the blood pressure in the inflamed part. In internal inflammations, a blister to the skin acts like cold applied to a finger. While a warm poultice applied to the surface of the thorax or abdomen affects the deeper lying organs in the same way as it does the more superficial ones, the warmth penetrating through the thin, overlying structures. A poultice, to produce the best effects, should be made in the best manner, and Dr. Brunton gives the following as the proper way to proceed: Take a flannel bag the size of the poultice required; fill this with the linseed poultice, as hot as can possibly be made, and put between this and the skin a second piece of flannel, so that there shall be at least two thicknesses of flannel between the skin and the poultice itself. Above the poultice place more flannel or a layer of cotton wool, to prevent it from getting cold. The heat of a poultice thus applied gradually diffuses through the flannel, and affords a grateful sense of relief, unattainable by any other means.—*The Brain.*

Wound Treatment by Dry and Infrequent Dressing, Rest and Pressure. By Sampson Gamgee, F. R. S. E.—In wound treatment, pressure is a most powerful and beneficial agency. It favors union by maintaining accurate coaptation, and prevents extravasation. When extravasation occurs, pressure is the quickest, the least painful, and the most successful agency in promoting its absorption. According to John Bell, pressure "supports the parts, helps adhesion, prevents suppuration, and hinders an afflux of blood to the part." Nevertheless, his classical picture of gangrene, resulting from an ill-applied bandage, has resulted in hasty generalization and condemnation of supporting wounded limbs. A clear understanding of the value of compression, as distinguished from constriction, is of the first importance to the successful treatment of wounds and surgical injuries generally. In applying this treatment to fractures and for immobilising joints, Mr. Gamgee uses strips of thin, rough, unglazed mill-board, twelve inches in length and two in breadth,

softened in hot water. In the first place, a strip is placed vertically on each side of the fracture or joint, previously covered with cotton wool; then bandage lightly; then diagonal strips and a gently compressing bandage, other strips and alternating bandage as required. The limb is then supported by sand-bags of sufficient weight, varying from twelve to twenty pounds each, and from eighteen inches to three feet in length, according to the seat of the injury and the patient's strength. Wounds are covered with an oakum pad, and over it a layer of cotton-wool, and a gently compressing bandage. If necessary, a drainage-tube is introduced, and Mr. Gamgee attaches the utmost importance to the drainage-tube being brought out from the main dressings, so that while these are left undisturbed, free percolation of the discharge is secured. This dressing is left on as long as possible, and under this treatment the majority of wounds heal kindly, rapidly and painlessly. Many of the substances employed—oakum for example—possess antiseptic properties, and there is no doubt that antiseptics are serviceable in surgical practice, but they are accessaries and not essentials. The essentials for wound treatment are accurate coaptation, dry and infrequent dressing, uniform gentle pressure, and absolute rest.—*The Lancet.*

A Hitherto Undescribed Lesion as a Cause of Epistaxis. By James Little, M. D., Professor Surgery, University of Vermont.—Professor Little reports four cases of hæmorrhage from the nose, profuse and severe, which were temporarily controlled by plugging the anterior nares. In all of these cases the cause of the bleeding was found to be a small erosion or ulcer on the septum, and on being wiped off, the blood could be seen flowing freely from a small point, and arterial in color. In two of the cases the ulcer was on the left side, the others were not noticed. In two the existence of soreness was noticed by the patient, and the hæmorrhage was started by picking at the tender spot. The seat of the ulcer seemed to be the same in all the cases, about half an inch from the lower edge of the middle of the columna. The septum at this point is supplied with branches of the anterior

ethmoidal arteries, which anastomose freely with branches of the spheno-palatine artery. The lower portion of the septum is supplied by a branch of the superior coronary artery. In one of the cases the hæmorrhage evidently came from this vessel, as firm pressure over the lip near the columna arrested the bleeding. One of the popular remedies for epistaxis is to roll up a piece of paper and push it up beneath the upper lip. The hæmorrhage from this cause is very free while it lasts, and the blood runs in a stream. The recurrence of the attacks, at short intervals, is one of the destructive features of epistaxis, arising from this cause, and Dr. Little believes that many cases of loss of blood from this part of the nasal cavity are overlooked, as the existence of this lesion is not mentioned by writers. The practical point derived is that it is advisable to inspect the anterior nares, and especially the septum nasi in all cases of epistaxis, before plugging either the anterior or posterior nares. If the hæmorrhage comes from the septum, it can be readily controlled by touching the bleeding point with nitrate of silver, or with styptic cotton, or with persulphate of iron; and if these should fail, the spot may be easily reached with a hot needle. Compression by plugging the anterior nares does not seem to do permanent good.—*The Hospital Gazette.*

Acne. By L. Duncan Bulkley, M. D.—Occasionally on the face of a patient will be observed three forms of the eruption known as acne, viz., acne punctata, acne simplex, and acne indurata. Acne punctata, also called comedo, is manifested by the little black spots seen scattered over the surface, and consists merely in blocking up of the sebaceous follicles. Acne simplex is characterized by papules and pustules, and acne indurata by larger indurated masses, which contain pus, and which are made up of groups of glands. Acne punctata is divided into two varieties, viz., acne nigra or comedo, and acne anida, or millium. When the point of the plug at the surface is black (from dirt) it is called comedo. Millium represents that condition seen principally beneath the eyes, when there are small, white specks, whose seba-

ceous contents are beneath an epidermic covering, and can not be exposed without a slight incision. The ordinary fatty secretion of the sebaceous glands, concrete in acne into cheesy masses. In the glands a parasite is sometimes found, in the form of a minute worm, the acarus or demodex follicularorum; it is of no importance in connection with any disorder of their function, but has probably aided in giving to these sebaceous plugs the popular name of worms or grubs. Acne simplex is a simple inflamed pimple, and these may cover the whole face, or be lightly scattered over it. Occasionally they are seen over the whole back. In acne indurata the elevations are larger, painless, are apt to last a long time, and always contain pus. Acne molluscum resembles comedo, but instead of being located in or under the skin, the small, pearly tumors project above the surface. Acne sebacea is divided into acne oleosa, acne sicca, acne cornea, and acne exsiccata. Acne oleosa is indicated by the greasy condition of the face. It is acne sicca when it dries up into a thin crust; such a crust can be readily rolled up into a ball. When it becomes harder the affection is known as acne cornea, and when the follicles refuse to act and the skin gets too dry, acne exsiccata. For the treatment of comedo the best method is the employment of a small silver tube, which is much better than the ordinary watch-key so commonly used. It is about two inches long, and about one-eighth of an inch in external diameter, with its ends hammered over, leaving an apperture of one twentieth of an inch at one end, the other a little larger. Its rounded end does not cut the skin like a watch-key, but when pressed into the skin rather serves to stretch open the orifice of the gland, and to favor extrusion of the plug. When pressed upon the surface surrounding one of the little black points, the plug instantly rises up into it and stands upon the surface like so many little horns. It occasions no pain to speak of, and is very efficient. For the local treatment of acne indurata, opening with a knife is the only efficient means, and the earlier this is done the smaller the scar. When left to themselves, scarring is so great as readily to be mistaken for small-pox. In acne mol-

luscum the little tumors can either be snipped off with scissors, or enucleated by a small incision, and the face then cauterized with nitrate of silver. Acne proper is never a purely local disease, but is always associated with some disorder of the general health. There may be constipation, dyspepsia or some other disorder of the alimentary canal, and in females there is apt to be some sexual derangement. When acne depends upon some uterine derangement, the eruptions are almost confined to the lower part of the face. The treatment of acne consists in the removal of the cause, and hence there is no one remedy for this affection. In some cases arsenic does good, in some strychnine, and in some phosphorus. On account of its special property of relieving cutaneous congestion, there is nothing of such universal application as the acetate of potash. It may often be combined with nux vomica, with taraxacum, or with senna, if there is constipation. In acne indurata cod liver oil yields the best results. Some of the German authorities recommend as a local application green soap. This, however, is usually too harsh, and Dr. Bulkley prefers the use of hot water, as hot as can be borne. A cloth saturated with it is applied for five or ten minutes, and then some slightly stimulating lotion, as alcohol and water, or a drachm of sulphate of zinc, two drachms of glycerine, and four ounces of water. When strong stimulation is necessary, green soap and alcohol or other irritants may be used. Proper attention should be paid to the diet and habits of the patient.—*Med. and Surg. Reporter.*

A NEWARK, OHIO, letter to the Cincinnati *Enquirer* contains the following statement, which, if true, has very important bearings on certain problems of fecundation: A cow, the property of J. N. Sawyer, who lives about six miles south of this city, yesterday gave birth to fifty-six calves. One of them was fully matured and still lives; the other fifty-five were about the size of small kittens, and, with the cow, died. It is one of the most curious freaks of nature that has ever taken place in this county.—*Med. and Surg. Rep.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I. *On the Traumatic Origin of Subfascial, Deep-seated, or Cold Abscess.* By LEWIS A. SAYRE, M. D.*

Under the head of "Scrofulous Abscess," Prof. Samuel Gross (*A System of Surgery*, Vol. 1, p. 141, 1866) remarks that "the scrofulous abscess is of such frequent occurrence, and possesses, withal, such distinctive features as to entitle it to a separate consideration." "It is never met with except in strumous constitutions."

Psoas abscess he regards (Vol. 2, p. 184) as an "essentially strumous disease which can occur only in persons of a strumous disposition."

Dr. J. M. Chelius (*System of Surgery*, translated by J. F. South, Philadelphia, 1847, Vol. 1, p. 57) states that cold abscesses "are always the consequence of a general cacochemic or dyscrasic affection."

Geo. H. B. Macleod, M. D., F. R. C. S. E. (*Outlines of Surgical Diagnosis*, First Am. Ed., New York, 1864, p. 63), remarks that "cold or chronic abscess occurs generally in young persons of a lymphatic scrofulous temperament."

Dr. Frank H. Hamilton, A. M., says (*The Principles and Practice of Surgery*, New York, 1873, p. 40), that "chronic or cold abscesses occur almost exclusively in persons of feeble constitutions, and especially in persons of strumous habit."

From the careful observation of several cases of deep-seated abscess that have come under my personal care, occurring in persons of previous good health, and from healthy parents, and in which cases the disease could be distinctly traced to a traumatic origin, I am inclined to doubt the statements of the above quoted authorities and the generally prevalent opinion that these abscesses must necessarily be connected with a constitutional cachexia, and arise from a constitutional condition without some local exciting cause. In fact, I am inclined to doubt even the possibility of their existence without

*Read before the Medical Society of the State of New York, February 6, 1879.

being excited by some local injury, even when occurring in persons with a depraved constitution. I am very much more inclined to agree with the statement found in *A System of Surgery*, extracted from the works of Benjamin Bell, of Edinburg, by Nicholas B. Waters, M. D., Philadelphia, in 1792, where we find (page 432, under the head of Lumbar Abscess), the following: "This disease seems in general to be induced by a bruise, twist, or some other injury of the small of the back." It is my opinion that the etiology of all other deep-seated abscesses, excepting specific and glandular enlargements, will be found to be the same as Benjamin Bell has here given for lumbar abscesses.

Many of these abscesses may arise from a blow or bruise, but most of them arise from a wrench or strain of the muscles, in many instances tearing off more or less of their fibrous insertion at their periosteal attachments. In many instances these attachments are so deep-seated as to give no local manifestations that can be detected, or when superficial they are not of sufficient extent to attract immediate attention to the slight exudation or effusion which takes place; this exudation or effusion is the result of a strain or rupture of some tissues, but owing to the fact that it is situated in a locality which is normally poorly supplied with absorbent vessels, is not taken up, and being unsuspected, the effusion is continued, and, being increased by constant irritation and motion, finally undergoes a degenerative metamorphosis into pus.

The pus may be at first very small in amount, and being deep-seated, unsuspected and not detected, increases in quantity and burrows in different directions in the tissues, taking that course where the least resistance is met with, and may thus continue burrowing for many months, or even years, until the pus has found its way, by a more or less tortuous course, to the surface of the body, where it can be detected as a fluctuating tumor. During all these months the retained pus has been a noxious element in the system, and has produced the constitutional disturbance which we find in connection with this disease, as the result of this absorption to a greater or less extent, thus poisoning the system; or, by its

mere mechanical presence, producing pressure upon the adjacent parts, thereby interfering with their nutrition and vitality, and causing pain by pressure upon the nerves, thus keeping up a continuous irritation, until finally the general system becomes involved, and we thus have the constitutional disturbance produced by the presence of the abscess, instead of the abscess being the result of a previously vitiated constitution, as is generally supposed.

Thus it will be seen that we have had for a long time in the system the very conditions which are sufficient to deprave the general health even of the most robust; and, owing to the fact that this depraved condition of the general health is usually observed before the pus has reached the surface, or the abscess has been detected, the profession has been wont to attribute the abscess to the depraved condition instead of what is the true explanation, namely: that the depraved condition is due to the presence of the abscess.

The following are a few of the cases that have come under my personal observation, and have led me to make the above remarks:

Case I.—B. H., Tenth Street, New York; age twelve years; brought to me in June, 1876, by Professor T. M. Markoe, M. D., with the following history:

Patient's father died at about fifty years of age, from disease of the heart. Mother is a robust, healthy woman, and she has six other children, all of whom are healthy. This boy had always been a healthy child until the summer of 1875, when he spent some time in the White Mountains, in Vermont. At the hotel where he was staying there were several cases of sickness, which were attributed to bad drainage and the contamination of the water thereby. After his return to the city in the fall, he seemed to have a general malaise, weakness and loss of appetite, without any distinct symptoms, but he was thought to be suffering from malaria. Quinine and tonics were used without benefit. In the month of February, in getting out of a bath-tub, his brother suddenly discovered that one of his buttocks was larger than the other; this being made known, Dr. Markoe, who had the

case in charge, was again sent for, and his attention drawn to the swelling. He discovered an abscess under the gluteal muscles of the left side, and extending above the crest of the ilium. He opened this abscess just above the posterior crest of the ilium in the lumbar space, and gave exit to a very large amount of pus, the exact number of ounces not being determined. A spica bandage was applied and worn. The abscess discharged for some months and finally closed, but every few weeks it would break out again and discharge. This was the condition when the patient was brought to me in June. The above condition was looked upon by Dr. M. as the local manifestation of a malarial and constitutional disorder.

Upon stripping the patient and making an examination, I found the left gluteal region much broader and flatter than the other, with a swelling upon the posterior portion of the thigh, three inches below the tuberosity of the ischium. Upon pressing this tumor pus escaped through the opening which had previously been made above the posterior crest of the ilium. A long flexible probe was then passed into this opening, downward and backward over the ilium towards the sacrum; then bent forward and downward, and made to be distinctly felt upon the posterior aspect of the thigh, some three or three and a half inches below the tuberosity of the ischium, but no dead bone could be detected. A counter-opening was now made at this point, which gave exit to some two or three ounces of pus. The probe being passed in at this lower opening, went directly upward and inward, and immediately came in contact with dead bone at the tuberosity of the ischium. So soon as the location of the dead bone was determined, the young lad exclaimed: "Why, that is the very place where I got hurt when the horse bucked with me in the mountains last summer!" Upon a more careful inquiry it was discoverd that from the day of this injury, which he received while riding, he complained for some time of severe pain at that place, having difficulty in sitting down, and was obliged to suspend his horseback exercises. From this time he acquired the habit of sitting upon his opposite buttock, which gave rise to

a twist in the body, which the family had been disposed to attribute to his general debility.

From the above history it would seem that the boy's trouble was clearly due to a traumatism, and this view is further strengthened by the fact that he was perfectly healthy previous to the injury which he had received. Probably the reason that this injury had been overlooked and forgotten is, that he only complained of the local tenderness for a few days. This tenderness afterwards subsiding, and being lost sight of by the prominence of his general debilitated condition, which was due to the irritation of the pus which had been formed at this point, and being so deep-seated, was not detected, nor even suspected, until months after, when the pus had made its way externally under the gluteal muscles upward and presented itself as a fluctuating tumor above the crest of the ilium.

The diagnosis now being clear that we had a case of necrosis of the tuberosity of the ischium, a free incision was made down to the dead bone, and the necrosed portion removed. Carbolized water was freely injected, escaping through both openings; an India-rubber drainage-tube was drawn through the upper opening to the lower opening, traversing the incision over the tuberosity. The wound was dressed with Peruvian balsam and oakum, and the walls of the abscess firmly supported by a roller bandage. From this time the boy's improvement was rapid, and terminated in a perfect recovery, and he has since remained so, showing no sign of constitutional taint whatever; but on the contrary, is an exceedingly vigorous and robust boy.

Case II.—A very similar case will be found in the *London Lancet* for July, 1871, occurring in the service of Mr. Callender, of St. Bartholomew's Hospital. The patient was a man who had been treated in the hospitals of London for six years for scrofulous disease of the hip-joint. Various abscesses upon the back and thigh had been discharging during all these years, and had gradually exhausted the patient. I was called in consultation as to the propriety of exsecting the hip-joint; but upon examination I found that the hip-joint was

perfectly sound, and that the disease was necrosis of the tuberosity of the ischium. Mr. Callender made an incision down to the tuberosity of the ischium, and removed a piece of necrosed bone, and the man made a rapid recovery. It was then discovered that the man had some years previous been a stage driver, and had received an injury at this point from the jolting of the stage while riding over rough roads, and this had resulted in a necrosed condition of the ischium.

Case III.—In September, 1878, I was called by telegraph to Wilmington, Delaware, to see a gentleman, with Dr. W. R. Bullock and Dr. Jas. A. Draper, who was supposed to have hip disease. The patient had been an active, robust lawyer, between forty and forty-five years of age, who had been taken ill some six months previous with what was then supposed to be rheumatism of his left hip. After some weeks of fruitless treatment he was sent to the hot springs of Virginia; but as he grew gradually worse and more feeble, Dr. Cabel, of Virginia, advised him to return to his home in Wilmington. At this time it was suspected that caries of the hip-joint had become developed, and Dr. Agnew, of Philadelphia, was called to see him, who decided that the hip-joint was not organically involved; but the patient was now so far exhausted that he thought no treatment would be of avail, and hence suggested nothing. I was then telegraphed to see him, and reached the patient twenty-four hours afterward. I found him delirious, greatly prostrated, and in a profuse perspiration; in fact, presenting all the symptoms of pyæmia. Upon a careful examination I was enabled to corroborate Dr. Agnew's opinion in regard to the hip-joint not being involved. I, however, detected a large abscess deep under the gluteal muscles. By firm pressure over the gluteal region a fluctuating tumor appeared upon the posterior and outer portion of the left thigh. Dr. Bullock had already suspected an abscess in this region, and had aspirated it just before my arrival, but obtained nothing. I therefore made a free incision over the fluctuating tumor over the outer portion of the thigh, and gave exit to a very large amount of pus. The ordinary probes were not of sufficient length to

reach the bottom of the abscess; a silver catheter was therefore passed, and with it I detected a ridge of denuded bone about the middle of the ilium along the line where the gluteus medius muscle is attached. The catheter was then turned with its projecting point toward the surface and a counter opening made through the gluteal muscles, when this curved line could be distinctly felt uncovered of its periosteum. A drainage-tube was then drawn from one opening to the other. The patient never became entirely conscious, and died at the end of a week of pyæmia. After the abscess had been discovered, and the location of its origin definitely fixed, which was the origin of the gluteus medius muscle, some gentlemen friends of his being present, stated the following circumstances:

In March last he had acted as one of six pall-bearers in carrying a very large man, weighing nearly three hundred pounds, to the church, and back to the hearse, and then to the grave. One gentleman remembered distinctly of his complaining that he had hurt himself at that point when he attempted to lift the coffin, but it had entirely passed from their minds until this time. Another friend who was present said that the night after the funeral the patient spent the evening with him, at his house, and in getting up to go home he placed his hand upon this portion of his hip and said that he had either strained it or had got rheumatism. From this time the trouble continued, until he was sent to the hot springs of Virginia as above stated.

Case IV.—W. K., Forty-ninth Street, near Fifth Avenue, New York; forty-three years of age; a vigorous, robust and well-developed man, who in going down his front stoop, which was glazed with ice, slipped, and in attempting to save himself from falling made a great muscular effort, and was seized with a pain in the upper and anterior portion of his thigh, about four inches below Poupart's ligament. He was brought in a carriage to my house immediately after the accident. There were no external appearances that would attract attention to any portion of his thigh, unless it might be a very slight depression at the point I have mentioned. At

this point the pain was so intense that I could account for it in no other way than that he had ruptured some of the fibres of the crureus, or torn them from their periosteal attachment. I advised complete rest in bed, with the leg elevated and thigh lifted, and the application of a firm roller bandage, carrying it over the thigh; this treatment to be kept up for a week or ten days, until the parts had time to regain their integrity. The patient seemed to think I was making a more serious case than the appearances would justify, and sought other advice. He was told that it was a matter of trifling importance, and that he might go about his work. In the course of about five weeks he detected a discoloration of the thigh at some distance from the point of injury, both upon the inside and outside. About three months afterward I was again called to see him, and found a large abscess in his thigh, which I aspirated, and afterward opened anti-septically, after Lister's plan, and he then made a prompt recovery.

Case V.—A. M. S.; age two and a half years; brought to me in January, 1853, with symptoms of lumbar abscess. The patient at this time was in a tolerably good condition. Upon examination I thought I detected deep-seated pus; a consultation was held by Drs. Willard Parker and Valentine Mott, who were unable to detect fluctuation, and advised the local application of iodine, and the internal administration of cod-liver oil. In the following March or April the patient returned to the city, and Drs. Parker and Valentine Mott saw him in consultation with me, and both agreed at this time that my first diagnosis was correct, and that there was deep-seated pus. The abscess had now become quite marked and easy to recognize; they advised a valvular incision upon the left side. It was my wish to have a free incision, but being overruled, the abscess was evacuated by a valvular incision, the air being cautiously excluded, and the wound hermetically sealed and a bandage placed over it. The patient went to the country in June, and in July following there were two valvular incisions made upon the right side; both times with my protest, as I was anxious for a free incision. On account of the reduced condition of the patient he was again sent to

the country, near the sea-shore, in order that he might get the benefit of salt-water bathing and sea-air. In September I was called to the sea-side to see him, as he was thought to be dying. He had become greatly emaciated, had hectic fever, entire loss of appetite, and was drenched with a copious perspiration. The tumor was now quite prominent, particularly upon the right side. The father now gave his full consent for me to proceed with the case as I desired, as he would prefer to have him die to have him suffer as he was then doing, and wished me to perform the operation which I had at first proposed. I immediately made a careful incision around the posterior crest of the ilium, giving exit to a large amount of pus, and upon exploration I at once came in contact with necrosed bone, extending from the superior to the posterior spinous processes of the crest of the ilium, and leading down to the junction of the sacrum and the ilium, this portion being denuded of its articular cartilage, and was carious. A considerable portion of the necrosed bone was scraped away, and the wound filled with Peruvian balsam and oakum, and the child put to bed.

After the incision had been made and the bone was found diseased, the mother then said that that was exactly the place where her child had hurt himself by falling off from a trunk backward against the base-board, while they were at Saratoga, in the August previous to the time of my seeing him. She had forgotten all about this until it was brought to her mind by determining the location of the diseased bone.

From the hour of the operation he improved in all his symptoms; the hectic fever subsided, his sweats ceased, and his appetite returned. The wound went on discharging for some five or six months, at the end of which time it closed. The patient subsequently made a complete and perfect recovery, and grew to be a vigorous and robust man, able to perform the active duties of a civil engineer upon our Western frontier.

This patient was seen fifteen years afterward by Dr. LeRoy M. Yale, who met him and entered the following note in my history book: "The patient is in no way inconvenienced by

the old disease; no sign of it remains, save a cicatrix some four inches in length, which has considerably contracted in size since the incision was made."

Case VI.—L. H. S., Fifth Avenue, New York; age twenty. He had previously enjoyed perfect health. He began one afternoon to complain, without apparent cause, of feeling sick and unable to continue his daily avocation. He complained of a circumscribed pain upon the right side, between the ninth and tenth ribs, at the point of their greatest curvature. In the evening of the same day he was seized with excessive nausea, and vomited freely the food which he had taken during the day, which was almost wholly undigested. The next morning he complained of this localized pain, which led me to suspect that he had received some injury at this point. I questioned him very closely, but he positively asserted that he had in no wise been injured. The case progressed, but as he was no better, and fearing some grave visceral disturbance, I called Dr. Austin Flint in consultation, who, upon a careful examination, could detect no serious difficulty, and gave a favorable prognosis under expectant treatment. The patient for a time remained able to sit up and to go out riding, but after some weeks he began to have chills, one or more times per day, and his general prostration became much more marked. Dr. A. L. Loomis then saw him in consultation with Dr. L. M. Yale a number of times, both looking upon the case as one of malarial origin, and that the liver was involved. Mercury and quinine were advised and taken in liberal doses for some weeks, without any improvement. Blisters were then applied over the liver, and repeated at intervals of a week for some time; tincture of iodine was also locally used. His general health became completely broken down, and upon a more careful examination Dr. Loomis now decided that there was chronic enlargement of the liver from malarial poisoning, which could probably be relieved by a two years' residence in a high altitude. The pain and difficulty of breathing at this time had become so great that the patient had become unable to take exercise even in the easiest riding carriage, and he was taken to the

hot springs of Virginia, for the purpose of having the "Hot Spout," which is celebrated for its action upon the liver, after mercurials have failed to produce the desired effect. I might here state that the idea that the liver was the source of the trouble was maintained, notwithstanding there was no jaundice whatever of the skin or conjunctiva, and the stools were natural in color. I accompanied the patient on his Southern trip. We reached Richmond by steamer, the patient bearing the trip with a considerable degree of comfort; but his trip from Millboro to the springs, though only sixteen miles distant from the railroad station, took three days, during which time the patient suffered immensely from the jolting of the vehicle in which he was riding. On arriving at the springs I found Drs. Cabel, of Virginia, and Stewart, of Georgia, and a number of other well-known Southern physicians, who at my invitation examined the patient and manifested a great deal of interest in the case. All these gentlemen were of the same opinion as Dr. Loomis; I could not agree with them, and still felt quite confident that there was deep-seated pus, and that it was not connected with the liver. The first day that the patient was subjected to the "Hot Spout," the temperature of the water being I think 98° or 100°, he was much more comfortable, and this bath was followed by an exceedingly dark-colored evacuation from the bowels. This gave great encouragement, and I was inclined to adopt the views of my medical friends. But in the course of two or three days his breathing became much more rapid, and the distention over the liver and lumbar region becoming more distinct, I felt confident that I detected fluctuation, and decided to explore it even if it were connected with the liver, inasmuch as five months had elapsed since the commencement of the trouble, which would have been quite time for peritoneal adhesions to have taken place. In the presence of Drs. Stewart, Cabel and a number of other medical gentlemen, whose names I can not now remember, I made a puncture with a tenotome, nearly two inches in depth; no pus escaped, but as the instrument could be easily moved from side to side, I was confident it was in a cavity, and by partially withdrawing the instru-

ment, which was narrower in the blade than at the heel, pus escaped beside it, and I therefore, without removing the knife, made a four-inch incision diagonally across the quadratus lumborum muscle, which gave exit to an exceedingly large amount of pus, I think something over a quart. This gave the patient instant relief from all his worst symptoms. Some days after, while dressing the wound, I discovered a prominent tumor in the right hypochondrium, upon the pressing of which pus was found to escape in the opening in the lumbar region. Some days after this the tumor increased in size, and required firm pressure to evacuate its contents; a consultation was had with the medical gentlemen there present, and it was decided to make an incision down upon this tumor rather than to run the risk of the further burrowing of the pus. A careful dissection was made through the superficial and deep fascia, external oblique and the transversalis muscles, and I immediately came in contact with pus, and some four or five ounces evacuated. A probe being passed in, and being found too short, a catheter was substituted and made to travel under the upper border of the tenth rib. A wire was then placed within the catheter, and it was found pressing firmly against the transverse process of the tenth dorsal vertebra. A careful incision was made down to the end of this catheter, the wire withdrawn, and a rag, wet with carbolized oil, passed through the eye of the catheter and drawn through the wound, thus giving it free drainage. This procedure gave the patient great relief, and from that time his improvement was rapid, and within a few weeks he was brought home. When the rag which had been introduced to give free drainage to the part had remained in about two months, it was then divided in the middle and made into two. This was in September. In the January following, as the sinuses remained opened and it was impossible to close them, Dr. A. B. Crosby put the patient under chloroform, and connected the openings by a free incision under the border of the tenth rib, its whole length. After this had been done I found upon examination a half inch band of transverse fascia, behind which was pus. This I cautiously divided. It was then discovered that the

last digitation of the serratus magnus muscle at the eighth or ninth rib had been torn from its attachment. When the patient recovered from the influence of the chloroform and his condition was explained to him, he immediately asked if lifting could have done this, and stated that the day before he had been taken sick he had strained himself by trying to raise the hind wheels of a carriage which were frozen in the mud by placing his shoulders underneath the axle. From the time the fascial band above referred to was divided and free exit was given to the pus, he began to improve, and completely recovered in about six months, and has remained in perfect health.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

ART. I. *Report on Epidemics.* By JOHN D. NEET, M. D., of Versailles, Ky.*

In view of the comparative exemption from disease, and mild manifestation of epidemics within our borders during the past year, your committee is unable to embody in the following report much that is novel and rare concerning the origin, spread, clinical history and treatment of this class of diseases. However, in its preparation an effort has been made to reconcile theories by facts from clinical experience; for your report is made up of observations and notes from the records of active practitioners of the state, and, as such, is most respectfully submitted.

The class of affections commonly placed in the category of epidemics presents to the student of the natural history of disease the specific properties of contagion and infection as the causal factors in their development and growth. That contagion or infection, however, in their general and accepted sense, are always tangible in the etiology of the indi-

*Read before the Kentucky State Medical Society, at Frankfort, April 3, 1878.

vidual diseases herein embraced, no one will argue; but in accordance with strict nosology and an analytical comparison of their clinical histories, they are so classified as to waive all discrimination between contagion and infection as separate and distinct agencies, and suggest the propriety of conjointly considering epidemic and endemic diseases in this report. For, recognizing *epidemic* diseases as those which have the atmosphere as the medium in which the morbific agents or principles are disseminated and sustained until they are consumed in space, or implanted in a soil fit to propagate and spread its kind, and *endemic* diseases as those which originate primarily in conditions growing out of soil or locality, it is perfectly evident that the one may receive such a modification or change of type from some prevailing epidemic or endemic influence as to establish their co-efficiency in the production of a disease endemo-epidemic or miasmatic-contagious, and to draw the border lines in this report would be foreign to its province and aims.

Notwithstanding the great degree of immunity from disease throughout our commonwealth during the year just ended, there has prevailed within its limits nearly every representative of the epidemic class, but at no time has any marked irregularity of course or obstinacy of treatment been recorded as prominent features of their existence. The prevalence of *scarlatina*, to which attention was directed in the reports of my predecessors for 1876 and 1877, has been more general, has presented more of the essential features of an epidemic, and has been characterized, perhaps, by a lower death-rate than in the preceding years. The sanitary condition of localities in which it has prevailed most extensively afforded nothing specially inviting to the disease, but the high, dry, and healthy sections of the bluegrass regions were the points selected for its greatest and most varied manifestation. An infinite variety and protean type have eminently characterized its development and general history, but the facts deduced fail to establish any system of classification or uniform plan of treatment. The mortality list stands in marked contrast with the extent of the epidemic and large number of cases

attacked, and attests the truth that whilst the poison was universally active, it did not, at any time or place, manifest that degree of virulence as would justly stamp it a malignant form of disease.

Georgetown, and the county of Scott, was the field of its greatest activity and most varied expression, and of a large number of unquestionable cases the mortality was as 1 to 17. Dr. Hamilton, of that place, in a communication to your committee, says: "If there has been any thing unusual in the character of this epidemic, it has been in the two following particulars:

"First—More adults have been severely attacked than usual. In almost every family in which the children have suffered the adults have had the disease, and many of them the characteristic eruption. Some of them had had the disease in their younger days.

"Second—More have suffered from the sequelæ than usual. Glandular enlargements, pneumonia, discharges from the ears, deafness without discharge, dropsy (albuminuria), bloody urine, rheumatism, etc., have been the rule; very few cases recovered without some one or more of the above. Our treatment has been symptomatic, sponging and bathing to reduce heat, carbonate of ammonia to prevent depression, chlorate of potash, mur, tinct. of iron, nitrate of silver, and carbolic acid in anginose cases, and inunction."

Dr. H., from his experience this season, believes that "the disease is *only* communicated from the person laboring under scarlet fever to the sound one."(?)

This disease made its appearance as an epidemic in Versailles and Woodford County in February of last year. It was observed by the physician in whose practice the first cases occurred that there was a slaughter-house in the immediate vicinity of the infected district, which seemed to impart a degree of activity to the disease not elsewhere noted. Soon, however, the influence became more general, and many were attacked without known exposure to infection.

The disease in its primary access partook of the usual nature of epidemics, in that those first attacked were characterized

by a higher degree of malignancy than was subsequently observed. Every possible precaution was taken to prevent its spread; the public and many of the private schools adjourned, and soon the epidemic was stayed in progress. In the following fall, however, it again appeared, but happily has not been at any time very severe.

In its development the disease was manifest by its usual signs and symptoms, viz., sudden seizure, sore throat, vomiting perhaps from two to four times in the twenty-four hours, quick pulse, high thermometric range, and in very many cases there was a very marked tendency to diarrhœa. The throat was usually a source of complaint from the earliest inception of the disease, yet in some cases its development was but slightly in advance of the eruption, which occurred, as a rule, on the second day. The lowest temperature observed by your reporter during this epidemic was 102° F.; the highest, 106° F. The complications were many, but the most common were pleuritis, croupous laryngitis, follicular faucitis, with membranous exudation and ulceration, cervical abscess, ulceration of the cornea (1), and enteritis. Dropsy and uræmic convulsions occurred as sequels in a few cases.

Treatment: Isolation, with temperature of room about 60 or 65°. When seen early, one general warm bath, and subsequently cool or cold sponging frequently repeated. Whenever temperature rose about 103° F., cool or cold baths were ordered every two to four hours p. r. n., with antipyretic doses of quinine. The temperature of bath when patient was placed in it was not lower than 90 or 85° F., but after becoming somewhat accustomed to it cold water or ice was added to cool it down sufficiently to reduce the bodily temperature to about 100° F.

Having been called to six cases about the same time, all in close proximity, and in ages varying from one to ten years, your reporter concluded to make use of the cold bath in five of the worst cases, with temperatures varying from 104 to 106°. The mild case was in the youngest of the six—one year of age—with temperature 102°, and was treated on a purely expectant plan. Each of the five cases had a bath

every two or four hours as required, and after the temperature had been reduced 100 or 101° F., they were wrapped in blankets, given small quantities of brandy and milk, and then put to bed. Waiving further details, suffice it to say the five so treated made each a good recovery, while the mild case died.

We have seen patients during this epidemic taken from the bed restless, with great prostration and delirious, and after remaining in the bath a few minutes become rational and refreshed, and when put to bed would fall asleep. In this condition they would remain until the high range of temperature would cause the course to be again repeated.

In addition to the cold bath and quinine, the mineral acids and saline diaphoretics were administered, but without definite results. For the uræmic condition and dropsy with urgent symptoms, the compound powder of jalap as a cathartic, and an infusion of *eucalyptus globulus* (leaves) as a diaphoretic, have been of signal service in our hands. The indications for the use of stimulants were manifest in many cases very early in the action, and comparatively large quantities were required to produce the desired effect. The first eight cases which came under the care of Dr. D. D. Carter, of Versailles, were treated with sulphur internally and externally, after the practice recommended by Dr. Pigeon, of London, and of these eight cases four died. Thus satisfied of its utter inutility, he substituted tinct. of digitalis, which, with inunction daily with turpentine and lard (1 to 3), he regards as valuable. Tinct. chloride of iron with chlorate of potash has found favor with many practitioners throughout the state, while the advocates of a purely expectant plan are quite as numerous.

The throat affection was rarely so serious as to require local applications, and though a high degree of morbid action should be present, their practical utility is quite questionable; especially is this true in the case of very young children. In those of more advanced age, and who could be made to cooperate with the physician in his efforts, a local application of a solution of persulphate of iron, carbolic acid and glycer-

ine has been apparently useful. Disinfectants have not, as far as could be ascertained, been in very general use, yet some have extolled the superior excellence of bromo-chloralum.

Occasional cases of the disease of a type deservedly malignant have occurred in the practice of almost every physician, and Dr. J. Baker, of Shelbyville, observed that "when death took place in the malignant type, it was in from two to six days, the patient dying apparently from shock, and no eruption making its appearance during the attack." Treatment availed absolutely nothing in these cases, and in several which came under the observation of your reporter the duration of the attack was reckoned in hours instead of days.

With unimportant facts, the above observations express in a general way the salient points in the clinical history, the rational principles in the management, and fairly pictures the epidemic of scarlatina as it occurred during the past year.

Measles and rubeola (German measles) have prevailed as epidemics throughout many portions of the state—the latter most extensively. In some localities the former proved quite intractable, being complicated by gastritis, dysentery or pneumonia, and death was not an infrequent result. In speaking of the prevalence of each of these exanthems as they occurred in Frankfort, Dr. W. B. Rodman, in a communication to your committee, says: "I can think of but three points in connection with the present epidemic which will be interesting:

"First—I am fully satisfied that there is a distinct disease known under the name of German measles, rubeola of Thomas, rötheln. Last summer there were numerous cases of this disease in the city which I diagnosed as such at the time. This winter many of these same persons (principally children) have had measles. Four of my own children had both forms.

"Second—The present epidemic has been marked by comparatively slight broncho-nasal catarrhal symptoms in the prodromic, and in many of my cases catarrh of the gastro-intestinal tract was decidedly more prominent than catarrh of the respiratory tract. In other respects the disease presented its ordinary appearance and symptoms.

"Third—The comparative immunity from the disease in nursing children is to be remarked. * * * * * * In every case I saw, a punctated eruption of the fauces could be seen in advance of the eruption on the skin."

Experience during the prevalence of rubeola and scarlatina in Versailles would seem to justify the statement that an attack of the former does not diminish in the least degree the susceptibility of the latter, as partly proved by the following case, now under your reporter's care: Nettie S., aet. five years, was attacked with rubeola on March 18, and recovered promply in a few days. On March 28, one day after a surgical operation, saw her in a well-marked and severe attack of scarlatina, which at this writing (April 2) has presented nothing specially abnormal in its course. (Further notice will be taken of the several interesting points of this case at some future time).

In concluding this report we will briefly mention some of the more striking features of an epidemic of typhoid fever which occurred in a portion of the county of Woodford. In speaking of its origin, Dr. R. W. Keene says: "After careful study and much inquiry into the causes of this epidemic, I fail to find any thing adequate to its production; yet that there does exist some local cause is evident, since in other portions of the county, save that due east, enteric fever is exceedingly rare. In the northern portion it is scarcely ever seen; indeed so rare is it, that one of the leading physicians has not seen a case in fifteen years." The condition of the pulse and systemic circulation were specially noteworthy in some of these cases, as illustrating the degree and kind of failure of heart power, which is at times induced by a prolonged elevation of temperature, even though the degree of elevation be at no time very high. The first case in point was a girl, ten years of age, who, on the sixth day of the disease, had a temperature of 104°, and pulse 130; and although the temperature fell in a few days to 102°, and remained so until convalescence was established, on the twenty-second day, yet the pulse varied from 130 to 140 for eight weeks; very feeble and at times intermittent. (Paralysis of the right hand, lasting one year, was a sequel in this case).

Case II.—Boy, aet. fourteen years; had a mild but well-marked case of typhoid fever, with an average morning temperature of 101°, and pulse 80. This degree of fever heat continued until defervescence on the twenty-second day, but on the twenty-third day he had a temperature of 96½° F., and pulse 56. At 10 A. M. of the same day he was in a state of collapse, covered with cold and clammy sweat, and almost pulseless. From this condition, however, he soon rallied to his former state, with depressed temperature and very slow pulse. There was no present or subsequent sign of hæmorrhage, nothing abnormal in the urinary secretion or kidneys, and quinine was administered on suspicion of a malarial element, no other more tangible cause for the phenomenon seeming warranted. Notwithstanding the use of the quinine in large and frequent doses, the collapse was repeated again the next night, when the pulse went down to 48, and was intermittent. Free stimulation, dry heat and friction were kept up constantly, but the collapse was repeated for ten successive nights. This boy required in seventeen days three and one-half gallons of good whisky to keep his pulse near 70, and at no time was he at all intoxicated.

Case III.—Male, aet. ten years, who, on the fourteenth of an attack of typhoid fever of moderate severity, had a temperature of 97°, and pulse 56, with a marked tendency to collapse. Under the free use of whisky for some four weeks this tendency abated, but he was not fully convalescent for four months.

Cases IV and V.—Daughters of Dr. K——, aet. nine and eleven years respectively. The same condition of the circulation was manifest in both, and they did not convalesce for about three months.

Dr. Keene further states in regard to this epidemic that "I have also noticed that when there was a disproportion between the temperature and pulse, the case would be protracted, and followed by unpleasant sequelæ." As an instance in attestation of this fact, your reporter would refer to a case of typhoid fever recently under care, in the person of

a young man, aet. twenty-six years, whose average evening temperature the latter part of the first and during the second week ranged from 103½° to 104°, and pulse from 80 to 85. On the eighteenth day of the disease an extensive thrombosis of the external and internal saphena veins of the left lower extremity supervened. Resolution, however, was soon complete, but immediately after defervescence, catarrhal pneumonia, with subsequent destruction of tissue, declared itself in the apex of the left lung. Metastasis was not a factor in the production of this condition.

In lieu of a recapitulation, there are several points relative to the report which can with propriety be considered in this connection.

First—The indefinite data afforded by the recent epidemic of the origin and spread of scarlatina.

Waiving the question of its possible spontaneous origin (?), facts are in existence that suffice to show that contagion or infection played the prominent and tangible rôle in the propagation and spread of the present epidemic; and it is highly improbable that the slaughter-houses, to which reference has been made, determined to any extent the development of the disease in Versailles. Thomas, upon the authority of Carpenter,* in enumerating the etiological factors of scarlatina, makes mention of the offensive odors emanating from the ground when slaughter-house offal is used for manuring purposes as productive of the contagious principle upon which the development of the disease depends; but in his comment upon it he says: "If these substances exert an influence on the spread of scarlatina, it is probably by increasing the predisposition of those living in the vicinity who become affected with scarlatina in consequence of an accidental contact with the contagion from other regions—*not, however,*† by the spontaneous evolution of the poison from these offensive substances." Upon this version is the development of those and all similar cases to be accounted for which were supposed to have had their origin in stagnant pools, obstructed sewers,

*Ziemssen's Cyclopædia, Vol. II., p. 198.

† Italics ours.

etc., in the immediate vicinity of its first appearance: increased predisposition and subsequent development in consequence of an accidental contact with the contagion.

Second—The vascillations of temperature in the invasion and eruptive stages of the disease.

In the majority of text-books on clinical medicine, there is a comparative uniformity of opinion as regards the range of temperature in the active stages of the disease. The rule prescribed by most writers is that the temperature manifests a great degree of regularity, and is subject to very little change after the disease has declared itself, until toward the end of the eruptive stage, when the variations are quite pronounced. The exceptions to this rule were quite numerous during the recent epidemic; indeed, in our experience the usual rule was made the exception. In one instance, on the second day of the eruption the temperature in the morning was 103°, at noon 101°, and in the evening 105°, and there was no complication. This degree of variation was not observed in all, but something similar occurred in very many, and they were not, as Thomas would designate them, mild cases.

Third—The perfect inutility of a certain class of drugs in the treatment of the disease.

Salicylic acid, salicine sulphur, the sulpho-carbolates, etc., have not stood the test of experience, and do not seem to possess the valuable properties which have been so enthusiastically proclaimed for them in the treatment of scarlatina. Specific properties have been accorded some of them, the principle of their alleged action being the same as that of all specific drugs, aptly enunciated by Binz in speaking of the action of quinia in certain affections when he says: "Those infective principles (whether they be organized or merely in solution) which are capable of self-multiplication in the body after a more or less regular period of incubation, and of acting as irritants to those cells, are either rendered incapable of further development or have their energy paralyzed" by this class of drugs. Recognizing acute constitutional diseases—such as the exanthemata; as those in which the parenchyma-

tous changes are manifested primarily in the blood tissue—that these changes have taken place at the time of the outward development of the disease; that in their general characters they partake of the nature of accidents (Thompson), and are cyclical in their course—specific measures of treatment would seem a priori perfectly absurd—and the value assigned the above-mentioned drugs in the treatment of scarlatina has proved to be more the result of speculative calculation than the honest observations of actual experience.

Fourth—The impropriety of inunction in the eruptive stage. The suppressed function of the skin, whereby not only the effete material is not eliminated, but the insensible perspiration which conduces to the reduction of animal heat is checked, is referred by the advocates of inunction to a mechanical cause arising from a dry, parched and contracted integument. Now since the essential lesion of scarlatina is manifest in the skin, and since normal function depends upon normal nutrition and recalling to mind the four necessary conditions for healthy nutrition, as prescribed by Sir James Pajet, viz:

"First—A right state and composition of the blood or other nutrient material;

"Second—A regular and not far distant supply of such blood;

"Third—(At least in most cases) a certain influence of the nervous system;

"Fourth—A natural state of the part to be maintained;"

It is not difficult to perceive that inunction can not restore the function of an acutely inflamed derma, which is the direct cause of abrogation of function, and the practice is not sanctioned by valid and scientific principles. The nearest approach to a rational indication for its use is a symptom—the itching—which in this (the eruptive stage) is rarely a source of much annoyance or irritation, and even when present can, besides contributing to a reduction of temperature, be quite as effectually relieved by cool or tepid alkaline baths. That inunction tends to stay the tendency to renal complications, experience does not warrant as a tenable conclusion. Act-

ing then upon the principle that when not productive of good it is most likely conducive to harm, we can satisfactorily dispense with this impermeable coating of oil as of no special or practical utility in the eruptive stage of an acute exanthem with high range of temperature.

Belladonna, the sulpho-carbolates, etc., which have been vaunted with specific prophylactic powers, have proved to be the will-o'-the-wisp of the unwary enthusiast, and notwithstanding the decided and infallible properties which have been alleged the former under the tenets of that silly "similia similibus curanter," they sweep our reason "like troubled visions o'er the breast of dreaming sorrow, to pass away and darkle in the trackless void." Since modern medicine is chiefly characterized by its precision, and precision attained by attesting facts, it unbecomes the honest student of clinical phenomena to indulge his imagination on these points; hence we recognize in the light of truth and fact only two methods of prophylaxis—separation on the one hand and disinfection on the other.

With courteous acknowledgment of valuable assistance and many kind favors received during the preparation of this imperfect report, your committee desires to express its most cordial thanks to the following gentlemen: Drs. J. Baker, of Shelbyville; W. B. Rodman, Frankfort; N. V. Williams, Bridgeport; John Hamilton, Georgetown; B. Payne, Scott County; F. Wardroper, R. S. Hart, R. W. Keene, C. T. Dale and J. S. Rogers, Woodford County; T. K. Layton and D. D. Carter, of Versailles; L. I. McMurtry, Danville; W. O. Bullock, Lexington.

A Strange Fact.—Some fifteen years ago a workman of Marseilles lost his only child. In despair at his loss, he cut off one hand of the child and preserved it as a precious souvenir in a jar of alcohol. One month ago the man's wife was confined a second time, and gave birth to a healthy boy. Strange to say, the child had but one hand; the hand that was wanting corresponded to the amputated hand in the jar.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

E. S. Gaillard, M. D.:

My Dear Doctor—A recent incident in my experience may interest some of your many readers.

The patient, a young married lady of twenty-four; had had diphtheria three times—at six, thirteen and twenty years of age; and in general had been a source of constant anxiety to her relatives and friends, being often under the doctor's care, and considered a very frail and delicate girl. Since her marriage two years ago she had lived according to an intelligent hygienic regimen, and had not during that time experienced a day's illness, saving only during her confinement in May, 1878. During the entire period of gestation she experienced not the least inconvenience or disturbance of any sort, living according to the "regimen in pregnancy," printed in the March number of the Richmond and Louisville Medical Journal.

January 22 she went to visit a sister's family, where it was utterly impossible to have any thing like the healthy condition enjoyed at home—pure air, regularity of meals and the wholesome kinds of food, etc.—her friends being extreme anti-hygienists, and enjoying consequently complete exemption from good health! At the end of four weeks the visiting sister began to show the symptoms common to the family—general depressed condition, cold extremities, hot and heavy head, sleeplessness, etc. The last four nights of her stay she slept in the bed formerly occupied by a little nephew, who had had diphtheria some months previously, and the blankets had not been disinfected. On her return home she slept in a draught on the steamer from New York to Boston, that caused a "cold feeling of the left shoulder" during the night.

Wednesday, February 19, arrived home. Thursday, February 20, the "cold shoulder" felt lame, as did also the left tonsil and ear, but thought little of it. Sunday, 23, evening; throat sore; left tonsil much swollen, half filling the throat; ear aching. Monday, 24; she felt languid; "no energy;"

worked about the house a little, but during the afternoon felt tired, sleepy; laid down frequently for a nap. In the evening had a chill, followed by fever; rapid pulse; difficulty about swallowing, yet having an incessant inclination to swallow; throat dry; limbs and entire body lame and aching. Tuesday morning, 25; throat very sore; could hardly speak; throat nearly closed by swollen tonsils; upon the left tonsil were several "patches." Treatment began this day. First sulphur, gargle, sulphur stirred in cold water, very frequently. This was the patient's first day in bed and the last. No food was allowed, although there was no lack of appetite. This is in accordance with my belief that when the body is diseased the organs of digestion are especial sharers in the general diseased state, and should have as complete rest as the body in bed, while the organs of excretion should "have things all their own way." To aid the process she was encouraged to drink sufficiently to quench thirst, which in this case was a goblet of very warm lemonade, made without much of either lemon or sugar, the aim being simply to make a warm and palatable drink of water; this three times during the day—morning, noon and night. Had there been thirst at any other time during the day or desire for cold water, it would have been given. Flannel wrung from hot water and frequently changed, being covered by flannel bandage and linen bandage over all to cover the left side of throat and the ear. Easily changed without removing or disarranging the bandage. Full sponge bath, with hot water under the bed clothing, changing flannel undershirt, disturbing patient as little as possible in the process. Began to sweat freely during the day, the fever of course subsiding. The patches disappeared from contact with the sulphur, so that Wednesday, 26, no patches could be seen; gargle continued, although less frequently for the forenoon. A light breakfast was given consisting of small saucer of oat groat mush, with a little butter and sugar, a baked sour apple, and a little milk made warm with hot water. Patient was up to dinner at 2 P. M., which was of graham bread, butter, mashed turnip and a cup of warm drink. Toward evening a drink of warm lemonade.

(The family take but two meals a day.) Thursday, 27, fully restored to usual vigorous condition. I desire to call attention to three features of this case.

First—The predisposing cause: an unwholesome regimen for four weeks.

Second—The exciting causes: (a) sleeping in an infected bed; and (b) the cold caught sleeping in a draught on the steamer.

Third—The simple method of reducing the inflammation about the throat and ear and removing the patches, and the treatment of the fever by the judicious application externally and internally of water, and the rest given to the organs of digestion for an entire day, as well as the throat, which must of course suffer from the ingestion of food.

Very truly, C. E. PAGE.

Biddeford, Me.

CHEMISTRY AND PHARMACY.

"Diruit ædificat, mutat."—HOR.

ARTIFICIAL INDIA-RUBBER.—A mass said to resemble India-rubber, and soluble in linseed oil, may be prepared by heating in an iron kettle, which should be only half filled, ten pounds of sulphur and twenty pounds of vapeseed oil, with constant stirring until the sulphur has been melted and the mass begins to swell; then immediately pouring it into a mold dusted with some kind of powder, or upon a slab moistened with water, when it will harden at once. Linseed oil may take the place of vapeseed when less sulphur must be used.

COOKS AND DOCTORS.—It is related of a celebrated physician Philippe Hacquet, born at Abbeville, in 1661, that when he was called to visit any wealthy patient, he frequently repaired to the kitchen in order to shake hands with chefs and cooks, and exhort them to continue to fulfill their occupations dili-

gently. "I owe you, my friends," he would say to them, "my gratitude for all the good services which you have rendered to us doctors, for without you and your art poisoning, the faculty would soon find itself in the work-house."

Ozone.—Among the new enterprises of the day, especially in putting up medicines as specifics, we observe that ozone is coming to the foreground as a sort of cure of all human ills. Oxygen, pure and simple, from indications is likely soon to be forced to take a back seat. About ozone there has been since the first published accounts a great deal of speculation as to its nature and its value. But according to Mr. Thersand, so far from being a salutary agent in diseases of the animal economy, it is one of the most energetic poisons prepared in our laboratories. Under the influence of this gas, even when it is largely diluted, the blood sells contract rapidly and change their normal forms. He says the presence of ozone in the atmosphere, as well as its activity as a disinfectant, is not yet settled, and new investigations are necessary for the precise determination of facts.

Carica Papaya.—At a meeting of the Berlin Natural History Society, Herr Witmack gave an account of some researches and experiments he had undertaken upon the juice of the fruit of carica papaya. A perfectly ripe undamaged pawpaw fruit measures from seven to eight inches in length, and three to four inches in width, and has the appearance of rather a long melon; it has a beautiful yellow rind, which in its taste also resembles the melon, though with a slight flavor of turpentine. The most interesting and important property attributed to it, however, is the power of its juice to rapidly render hard flesh tender. As far back as the year 1750 Griffith Hughes says in his "History of Barbadoes:" "This juice is of so penetrating a nature that if the unripe peeled fruit be boiled with the toughest old salted meat, it quickly makes it soft and tender, and if pigs be fed with the fruit, especially unripe, the thin mucous matters which coat the inside of the intestines is attacked, and if it be not changed is com-

pletely destroyed." According to Brown, meat becomes tender after being washed with water to which the juice of carica papaya has been added, and if left in such water ten minutes it will fall from the spit while roasting, or separate into shreds while boiling. According to Holden, the flesh of an animal hung to a branch of the tree is rendered tender. Karston says that in Quito the use of carica juice when boiling meat is very general, but in Venezuela and Costa Rica the practice is unknown. Some further experiments were made by Roy, who obtained, by making incisions in a single fruit 28.36 c. c. of the milky juice, which after evaporating to dryness and again diluting with water had a powerful action upon flesh, albumen and gluten, while starch remained unaltered by it. Herr Witmack, the author of the present paper, obtained after repeated incisions of a half ripe fruit only 1,195 grains of white, milky juice, of the consistence of cream. This, dried in a watch glass to a hard vitreous white mass, had what appeared to be greasy spots on the surface, but what really were flocks of gelatinous substance, that always adheres to the more hardened material. The odor and flavor of the fresh juice recalled that of petroleum or vulcanized India-rubber. The microscope showed it to be a fine grumous mass, containing some large particles, and isolated starch grains. Iodine colored the juice yellowish brown. A portion of the juice was dissolved in three times its weight of water, and this was placed with ten grammes of quite fresh lean beef in one piece in distilled water, and boiled for five minutes. Below the boiling point the meat fell into several pieces, and at the close of the experiment it had separated into coarse shreds. In the control experiments, made without the juice, the boiled meat was visibly harder. Hard boiled albumen, digested with a little juice at a temperature of 20° C., could, after twenty-four hours, be easily broken up with a glass rod. Fifty grammes of beef in one piece, enveloped in a leaf of carica papaya during twenty-four hours at 15° C., after a short boiling became perfectly tender; a similar piece, wrapped in paper and heated in the same manner, remained quite hard. Some

comparative experiments were also made with pepsin, and the following are the conclusions arrived at by the author: (1) The milky juice of carica papaya is (or contains) a ferment which has an extraordinary energetic action upon nitrogenous substances, and like pepsin curdles milk. (2) This juice differs from pepsin in being active without the addition of free acid—probably it contains a small quantity—and for this it operates at higher temperature (about 60 to 65° C.), and in a shorter time (five minutes at most). (3) The filtered juice differs chemically from pepsin, in that it gives no precipitate on boiling; and further, that it is precipitated by mercuric chloride, iodine and all the mineral acids. (4) It resembles pepsin in being precipitated by neutral acetate of lead, and not giving a precipitate with sulphate of copper and per-chloride of iron.—*Druggists' Circular.*

A Warning to Smokers.—It was stated at the Hygienic Congress, held in Paris last summer, that one Dr. Strohen, eighty-six years of age, the father of eleven children, and then enjoying perfect health, had for sixty-five years smoked fifteen cigars daily. That tobacco has proved "a slow poison" in his case can not be doubted, and smokers should not fail to heed the "awful warning."

Chemical Nomenclature in the Family.—A London exchange says that a distinguished professor of chemistry has suggested that the nomenclature of that science might be drawn upon for a variety of pretty additions to female names. Having himself a family of five girls, he has named them respectively Glycerine, Pepsin, Ethyl, Methyl and Morphia.

Cholera Infantum — Strawberries.—Prof. Storer, of Cambridge University, recently proclaimed that strawberries produced constipation. Dr. Williams, in the Boston *Journal of Chemistry*, proves the notion. He prescribed for a child dying with cholera infantum one strawberry each hour. The ehild speedily recovered.—*Cincinnati Lancet and Clinic.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Index damnatur cum nocens absolvitus."

A Practical Manual of the Diseases of Children, with a Formulary. By EDWARD ELLIS, M. D., late Senior Physician to the Victoria Hospital for Sick Children, Etc. Third Edition. New York: Wm. Wood & Co. 1879.

This volume, of over two hundred pages, is one of the series of Wood's Library of Standard Medical Authors. The first one, "Hilton on Rest and Pain," is, as we have already stated, a most admirable work, and this one is a fitting companion to it. There is condensed in this small volume an amount of practical knowledge it would be difficult to find in larger works. The fact that it is the third edition, sufficiently shows the appreciation of the profession. This edition has been carefully revised, and the treatment has been so far modified as to correspond to modern methods, much of the contents being entirely new.

The first chapter, upon the general management and diet of children, is, although brief, especially valuable. Dr. Ellis states that the eye of the physician gathers much information which the ear and touch may afterward confirm. It is fortunate if the child is asleep at the first visit, as then there is no restlessness and excitement, and the pulse can be felt, the breathing noted, the features, the state of the skin and other matters, before the child is aroused. When awake the expression of the countenance gives valuable aid in diagnosis. (1) The upper portion of the face is affected chiefly in brain diseases, causing knitted brow, contracted forehead, and rolling, fixed or purposeless eyes. (2) The middle portions of the face are changed in heart and lung affections, the nostrils are sharp or distended or working, and there is a bluish circle around the mouth, and dark rings around the eyes. (3) The lower portions of the face suffer chiefly in abdominal troubles, the cheeks are changed in color, sunken, puckered, the mouth drawn, the lips livid or pale. Besides these the physician will note special signs, as redness or palor, ptosis, unequal dilatation of the pupils, and the like. Gestures are often sig-

nificant, and serve to distinguish various diseases. The cries vary with the disease, which are fully described, as for instance, when Dr. Ellis says that a cry accompanied with wriggling and writhing, and preceding defecation, is intestinal or obstinate, and long continued crying, lasting for hours, is referable usually to one of two causes—earache or hunger.

Children shed no tears before the third or fourth month, and the saliva appears about the third month. Trousseau considers the shedding of tears a favorable prognostic. The posture, the tongue, the temperature, the eye and the pulse are mentioned, and their significance noted. The chapter concludes with an account of the proper diet and management of children. Chapter II. treats of general diseases, as scrofula, tuberculosis, rickets, syphilis and acute rheumatism. Chapter III. of skin diseases. Chapter IV. of congenital affections and diseases of the new born. Chapter V. of fevers. Chapter VI. of diseases of the brain and nervous system. Chap- VII. diseases of air-passages and thoracic organs. Chapter VIII. of diseases of the food passages and abdominal organs. Chapter IX. of general therapeutical hints and a formulary, and Chapter X., which closes the book, gives directions for the diet. The volume, although condensed, is a most valuable one. The author draws not only from his own rich experience, but also from the experience of others all over the world, as it is recorded in the medical literature of every nation. Containing little upon the diseases of the organs of sight and hearing, there is more room for the description of other affections. The book is especially rich in therapeutic directions, and Dr. Ellis claims to have given nothing which he has not successfully tried himself. Although small in size this volume can not fail to be of service to any one who reads it with care.

ART. II. *Report of the Pennsylvania Hospital for the Insane.* For the year 1878. By THOS. S. KIRKBRIDE, Physician-in-Chief.

The Pennsylvania Hospital for the Insane was the first institution of the kind ever established in this country, it hav-

ing been chartered in 1751, one hundred and twenty-eight years ago. The report for the present year is of very great interest, as the tables given embrace all the cases received into this hospital during the last thirty-eight years, the number of patients having been 7,867. Tables are given showing the sex, the ages, the occupation, the proportion of married and single, the nativity, the residence, the supposed causes of insanity, the forms of disease, the duration of the disease at the time of admission, the number of the attack in the same patient, the condition of the patients when discharged, and finally the annual expenditures.

Dr. Kirkbride shows himself to be a thorough master of human nature, and gives an indirect evidence of his fitness for the place which he occupies, in the manner in which he has explained these tables. The reader is not left to draw his own conclusions in regard to any single statistical fact. Dr. Kirkbride tells the public the facts, and then he tells them what he thinks of these facts, which recalls to the writer's mind very forcibly the opinion expressed by a veteran Virginia editor, the late Patrick Henry Aylett. "The public," he once said in a moment of confidence, "is a great big booby. You must not only tell them the facts, but you must tell them what to think of them." So the reader of this report is made to feel that he is not supposed to be able to reason about the statistics given. Moreover, Dr. Kirkbride's own reasoning is so clear and admirable, and his conclusions so satisfactory, that the reader becomes for the time willing to be quietly set aside, and accepts without cavil all that he is expected to accept.

One learns with surprise that a well-marked case of insanity has been treated in a child of three years of age, the cause being fright. Five children under ten years of age, one of them being six years, have been treated in the hospital. On the other hand, a few cases at an extremely old age (ninety and ninety-five) have been admitted. The greatest number of cases occurred between the ages of twenty-five and thirty.

It is often stated that farmers are more subject to insanity than any other class. In regard to this Dr. Kirkbride says:

"The most numerous class of cases in this list is that of farmers, and the conclusion is often arrived at from the statement that farming must be an unhealthful occupation so far as mental soundness is concerned, forgetting entirely the very great proportionate number engaged in agricultural pursuits in the district from which these patients are received. This being the case, it is hardly necessary to controvert the reasons that have been given for a state of things that does not exist. The number of merchants and clerks is nearly alike and approaches that of farmers, while the professions of law, medicine and divinity furnish in proportion to their relative numbers in the community a still larger proportion. One point, however, should not be overlooked, that apparently any occupation is better than none, for there were more admitted having no occupation than of any other class, the number being 606, or one-seventh of all the male patients that were received. While it must be conceded that there is a very great diversity in the healthiness of different occupations, it must also be acknowledged that a reasonable amount of labor of some kind is actually necessary for the most perfect development of the mind as of the body. As rational modes of occupation conduce to physical health, so they enable its possessor to labor in almost any vocation with a real pleasure, when without it all his efforts would be made only with pain or discomfort, even if they did not fail to give results at all commensurate with his wishes or anticipations."

The statistics regarding the social relations of the seven thousand eight hundred and sixty-seven patients will be found very interesting and suggestive to those who are investigating social and moral science, as well as political economy.

Of all of the tables presented in this report, none is more interesting than that which deals with the supposed causes of the disease; but this table must necessarily be much less reliable than the others, as it is very rarely the case that any single cause produces an attack of insanity; several causes are generally present, and absolute accuracy can not be arrived at unless the whole history of the case is given. Of the causes given, ill health stands at the head of the list, and

next to that intemperance. In regard to intemperance Dr. Kirkbride says:

"I have entire confidence that its influence is understated rather than overstated. The cases here reported seemed to be directly attributable to it, but the number would have been largely increased if to these had been added all the cases that might have been truly assigned to it. Coming indirectly as they did but not less surely in its train, and which might justly have been attributed to it as among its sequences, were the changed condition of families, the ruin of brightest prospects in life, the mental anxieties, never ending and always increasing where this abuse exists, the ill health induced in wives and children, and the thousand other modes in which this sad prevalent, and, it is to be feared, steadily increasing vice—as it too often clearly is—or disease —as it now and then can be fairly recognized to be—shows its influence. Which ever it may be, it is sure, sooner or later, not only to drag down the individual sufferer from it, but to produce the deepest sorrows in all with whom the victim of it has any connection. Nothing is more certain than that not a few of those who reach a hospital with unsound minds, and the causes of which are set down as owing to other reasons, or as unknown, can rightfully attribute their afflictions to the intemperance of others, and the consequences coming directly from it."

He is if possible more averse to the use of tobacco than to that of opium and liquor, and says:

"With growing boys it manifests its evil effects upon the mental faculties very strikingly, as well as on the physical condition. Many observations that have been made abroad have demonstrated that boys, whose standing in their school studies had been good before the use of tobacco, after they had become addicted to the habit, were found with their class marks almost invariably lower than the average, and about the cause for which their teachers seemed to have no doubt. There is generally a great reluctance in any one addicted to the free use of tobacco to acknowledge any prejudicial influence from it, and the giving up of the habit generally requires

so strong an effort, and so many hours of real suffering, that there is a natural unwillingness to believe that such a course is necessary or desirable.

In addition to all this the use of tobacco has often seemed to develop a craving for stimulants. At any rate, while we all know that very many indulge in the use of tobacco who do not use stimulants, still it is quite certain that very few use stimulants who do not also use tobacco, or who, when they can not get the former, will not compromise by having a full supply of the latter. To those who have investigated this subject thoroughly it is often a matter of wonder that so many who denounce most strongly and most justly the habitual use of stimulants have so little to say in regard to tobacco and its pernicious effects on the human system, even if they do not give a practical illustration of their disbelief of any such bad influence, show an indifference to it by their own use of an article, possessing as tobacco does so many principles that are deleterious to the animal economy."

Better results are shown in regard to the three hundred and six cases attributed to the puerperal state than to any other under treatment, more cures having been made, and from seemingly more desperate conditions.

Among the agencies assigned as causes of insanity Dr. Kirkbride does not include want of sleep or hereditary tendencies, putting down the first as being often an effect of insanity, and the second as not being of itself sufficient to produce the disease. In regard to this he says:

"This is at best a predisposing cause, but there must be something else that excites the development of the insanity. An individual with strong hereditary tendencies, by a wise and judicious course of living, avoiding every thing likely to produce nervous disturbances, if he is so fortunate as to enjoy good health, has a right to expect to escape any attack of the disease. Another, with no hereditary tendency, by a totally different course of living and a persistent violation of natural laws, ought to expect among the results of such a course his full chance of coming among those who add to the number of the insane, and to be worse off in the end than the individ-

ual who started under such unfavorable influence. It is important that this should be understood by all. Many sensitive persons are made unnecessarily anxious and unhappy, and have their lives embittered, because certain of their ancestors have, from some cause or other, labored under mental disorder, and these have really done themselves serious and sometimes permanent injury by their morbid and uncalled for anticipations on the subject."

If Dr. Kirkbride is correct on this important point, it is well that his opinion should be generally known; the deliberate conclusion of such an expert will go far toward removing an impression which has prevailed very widely and very strongly, and which has influenced every phase of social life.

Dr. Kirkbride thinks that many more permanent cures would be effected if the patients were not allowed to leave the hospital in a less period than twelve months. Such a regulation rigidly enforced would, in his opinion, add materially to the number of recoveries, diminish the frequency of re-admissions, and lessen the list of the chronic insane.

This suggestion is certainly worthy of the mature consideration of the supervisors of all insane asylums, and it is hoped that the law requiring a residence of twelve months as the shortest period will be generally adopted by the asylums of the United States.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

HOMŒOPATHY—ITS STATUS IN PUBLIC INSTITUTIONS OF LEARNING.—As a matter of medical intelligence, and for the purpose of answering many inquiries respecting the condition of the College of Homœopathy in our State, and not for the purpose of awakening controversy, of which, in this matter, the profession has had quite sufficient, we call attention to the subject stated in the heading of this article.

Differences of opinion have long existed in our profession

as to the most effectual means of ridding the community of what we regard as the delusions of this exclusive system of medical doctrine and practice, and different courses of conduct in relation to it have been pursued. Some have denounced and ridiculed without meeting it by exposure and argument; some have ignored it completely, while others would bring it to the light where its pretentions could be known, and would meet with argument and comparison its doctrines and practice. With us, in this country, the two first named methods have generally prevailed, with results with which we are all familiar.

In a few instances it has been forced by legislative enactments into proximity and comparison with regular, or what we regard as Scientific Medicine, and in the two principal instances that have occurred, sufficient results have followed to afford a basis of judgment as to the proper policy to be pursued.

In the *Michigan Medical News* of January 25 is a letter from W. R. Birdsall, M. D., one of the associate editors of *The Physician and Surgeon*, addressed to Professor E. S. Dunster, giving an account of the general decline of the system, especially on the continent of Europe, and more particularly of the effect of the introduction of homœpathic professors and their teachings into the University of Pesth, in Hungary. This is the only place in Europe, so far as we can learn, where it has a prominent position in a government institution established by law, holding any relation to the teaching of regular medicine.

We have another letter before us, giving an account of the same affair, as related to the writer by Dr. Seligmann, Professor of the History of Medicine in the University of Vienna. Professor Seligmann inquired officially and fully into the matter for the purpose of presenting the facts to the Austrian Parliament, when the question of introducing homœopathy into the great medical school of Vienna was proposed. He simply presented the facts to the Parliament without argument, as he and his colleagues in the university were indifferent as to the introduction of the professors and the teachings

of the system into the school, feeling assured of their own high position, and not dreaming that the professional character or standing of their great institution, or of its regular professors, would, in any way, be compromised by it, or that scientific medicine would in the least suffer from the comparison which would be instituted.

The account given by Professor Seligmann, as related in the letter, states: "A few years ago a bill was passed by the Hungarian Parliament establishing two professorships and a hospital for the teaching of homœopathy at the University of Pesth. It was carried into effect, and has been in operation ever since. The homœopathic courses were made elective; supplementary to the regular course, and no examination was required. Professor Seligmann found, on good authority, that the greatest number of students at any one lecture during the whole time was six, and that often the only hearers of one professor were the other professor and the assistants of both. He said that the history of homœopathy showed that it flourished while it was opposed and persecuted, but that since its introduction at the University of Pesth it had gradually lost ground in Hungary. It had proved, however, to be rather an expensive experiment to the government."

The Parliament of Austria did not, as was proposed, introduce it into the Vienna University. "The most decided opposition," Professor Seligmann said, "was from the Society of Homœopathic Physicians of Vienna, who presented a petition objecting to the passage of the bill, saying that homœopathy could stand upon its own ground, and did not need government aid; from which it was inferred that they did not wish to have the ridiculous result which had occured at Pesth repeated at Vienna."

The state action in recognition and aid of homœopathy in Michigan was different in its details from that in Hungary. There two professors of the system were introduced into the schools as colleagues of the professors of regular medicine. In Michigan, a separate college has been established, with no professional relations or communications existing between the

two faculties. We find in the general calendar of the University of Michigan the following statement: "It is proper to remark that the two medical schools in this university are distinct organizations, and that, under the regulations established by the regents, the professors in one school are not called to take any part in conducting the final examinations of students in the other, or in recommending them for graduation, or in signing their diplomas." It is true that under the action of the regents, the students of the homœopathic college are permitted to attend a part of the lectures, those on anatomy, chemistry, physiology, and obstetrics, in the regular school, just as students in homœopathic colleges are allowed by the hospital regulations to take hospital tickets, and attend the clinical teaching of regular professors in Bellevue, Chicago, and other hospitals; but they are not here entered upon the faculty books, or specially recognized as members of the class; and no certificates or evidences of attendance are given them by the regular professors. The results in Michigan have not been of the exact character of those in Hungary, but, as shown in what follows, they are far from being satisfactory to at least a portion of the homœopaths.

In a "Memorial of the Homœopathic Physicians to the Honorable Legislature of Michigan" now before us, printed and being circulated for signatures [since presented to the legislature] asking for the removal of the Homœopathic College from its connection with the University, the following statements among others are made:

"Notwithstanding the large sums of money the people of this state have so generously expended on that school, and the best talent from the East and West which could be procured has been called to its professorship, yet it has not fulfilled the expectations of its friends, and we are reluctantly compelled to believe that it can not in a generation to come, if ever.

"Some of our reasons for this belief are as follows: * * In Ann Arbor the allopathic department is old and well established. It monopolizes all the influence and best sentiment of the place. It is always hostile to the homœopathic

college. * * * Although 'an ample hospital is now under the complete control of the faculty' (see the last announcement of the homœopathic department) yet they have had less than half a dozen patients, and the prospects for the future are most unpromising. * * * * *

"The location of the college four years ago in Ann Arbor was contrary to the desire of nine-tenths of the homœopathic physicians of the state, and was then considered a doubtful experiment, except by a few who were hopeful by this means to break up the old department.

"The experiment is a failure and can only be continued at a great and unnecessary cost to the people of the state.

* * * * * * *

"We respectfully petition your honorable body to so amend the act of 1875 that the homœopathic college can be located elewhere than Ann Arbor, and continue the appropriation as heretofore made."

The petition asks to have the college placed under a Board of Trustees distinct from the regents of the university.

It will be noticed that the statement is here made that the object in establishing the college at the university was to break up the old or regular department. In this work they of course counted upon the aid of a portion of the regular profession, and upon the disgust or cowardice of the professors of the regular school, inducing them to resign. The aid of numbers of the regular profession (some acting from honorable, but we think mistaken professional motives, and some it is thought from lower feelings of rivalry and envy) they have had; but in this, as in other respects, the scheme, with all its abetting, has proven a failure.

During the past year the regular department has materially increased in numbers, while the homœopathic has diminished—the former having, according to the catalogue just published, three hundred and twenty-nine students, and the latter sixty-three: and several since entering the homœopathic college have transferred themselves to the college of medicine and surgery. Altogether the present outlook seems to justify the gloomy prognostication of the authors of the memorial.

It has long been the opinion of many of the wisest men of our fraternity that a great mistake has been made in the treatment of homœopathy. It has been much less violently assailed, and its adherents less denounced and shunned on the continent of Europe than in Great Britain, and especially than in this country; and the result has been that, while it is so nearly extinct on the continent where it had origin as to justify the saying of Dr. Holmes, that like the erysipelas it fades out and disappears where it first commences, it has spread over this whole country, feeding upon what it claims as persecution and bigotry, and is far more prevalent here than any where else. It thrives when covered over and kept in darkness by simple denunciation or ridicule, but withers when brought to the light and exposed to the rays of fair discussion. This is true of all delusions and deceptions, and however much aversion was excited by the introduction of this system into the University of Michigan, the effect has been and will be here as in Hungary, to cause it to lose ground in proportion to its exposure. The lesson for the future from all this is too obvious to require on this occasion further statements.—*A. B. P., in the Physician and Surgeon.*

On the Relation of Hypertrophy of the Heart to Kidney Diseases.—When, in cases of kidney diseases, there is observed hypertrophy of the heart, combined with valvular disease, the hypertrophy is considered as the compensating consequence of the valvular disease, and hardly brought into any connection with the kidney disease. More difficult is the explanation of hypertrophy of heart without any complication of valvular disease. Some have considered this form as the sequence of mere mechanical influences; others as one of the chemical changes (retention of urea in the blood). Indeed, there is found urea in the blood in cases of chronic parenchymatous nephritis and of diffuse nephritis, but not in cirrhosis of the kidneys, except in its last stage. Now in chronic parenchymatous nephritis, there is rarely found hypertrophy of the heart; and if it occurs it will be eccentric, while in chronic interstitial nephritis (with no change in the

condition of the blood) there is commonly observed hypertrophy of the heart, and mostly the simple or concentric form of this. Besides there is thickening of the walls of the small vessels in the latter affection, which is never found in chronic parenchymatous nephritis. From all this it appears evident that in different forms of nephritis the hypertrophies of the heart are of an unlike nature, and must be caused in a different manner. Uncomplicated hypertrophy can not cause an increased tension in the vessels. When we find such, as in chronic interstitial nephritis, it can be caused only by a thickening of the walls of the arteries, which accompanies the hypertrophy of the heart (as in cirrhosis of the kidneys). According to our present knowledge we must then consider the disease of the kidneys simply as the sequence or an accompanying phenomenon, and not as the cause of the increased tension in the vessels.—*Dr. H. Senator, in Virchow's Arch.*

The Influence of Constitutional Syphilis upon the Course of Wounds.—Dr. Dusterhoff states that the contagious forms of syphilis do not generally exert any influence upon the course of traumatic lesions. A wound subjected to constant irritation during the period of contagion may become the seat of syphilitic efflorescences, without its healing being sensibly retarded. Persistent irritation of a wound, bad diet, and excessive antisyphilitic treatment generally retard the cure more than constitutional syphilis itself. Wounds in the neighborhood of a primary induration may heal by first intention. Latent syphilis is ordinarily without influence upon the course of a wound. A surgical operation successfully performed in a case of latent syphilis may be followed after cicatrisation by syphilitic manifestations in the position or not of the wound. Autoplastic operations performed on the syphilitic parts often fail, especially if an incomplete course of treatment adopted shortly before the operation has caused the disease to become latent. In this case syphilis appears spontaneously at the seat of the operation. Every subject of syphilitic ganglia ought to be submitted to a course of antisyphilitic treatment before undergoing an autoplastic opera-

tion. Tertiary syphilis in a progressive state renders the patient an unfavorable subject for effecting a cure. This is not the case, however, if the patient is passing through a retrogressive stage, or is entirely cured. Syphilis in the bones predisposes to fractures and hinders consolidation. Treatment by mercury does not prevent induration, but rather assists it. In cases of inveterate syphilis, more especially in syphilis of the bones, wounds are sometimes accompanied by a specific gangrene which can not be arrested by any antisyphilitic treatment. There is no reason for supposing that constitutional syphilis predisposes to hæmorrhage from the wounds. Lastly, there is no relation between constitutional syphilis and pyæmia. The above results were obtained more especially with a view to consideration of the influence of constitutional syphilis upon the course of wounds received upon the field of battle.—*Arch. Gen. de Med., Feb.*, 1879.

Free Quinine.—It is only here and there we find a man who has so far lost his senses as to express his admiration of the present tariff. The most intense protectionist admits that in many cases it is iniquitous. Perhaps the most objectionable feature is the tax of forty-five per cent. on quinine. This is simply prohibition as far as the Government is concerned, for the revenue derived is insignificant. But as far as the masses of people are concerned it is simply murderous. The wholesale price of this article ranges from three to five dollars, according to the financial necessities of three or four men who are enriched by this blood money. The corn laws of England, which denied bread to the hungry, were less cruel than our tax on quinine, which denies medicine to the sick and dying. There is no question before the country upon which the South could so wisely "solidify" as upon the repeal of the tax on quinine. Throughout the South the demand for it must constantly increase. It is an absolute necessity to thousands. It would be the wisest policy to remove the tax altogether—to make it as cheap as possible, so that every man who is sick or suffering could procure it. It is not an expensive medicine naturally. A repeal of the tariff

would do more than decrease the price forty-five per cent. It would so increase the consumption that a demand would arise so great for it that thousands of dollars would be invested in its production, and the monopoly which now controls it would be destroyed. At present it is so powerful that smaller capitalists can not compete with it. The necessity for cheaper quinine has led to much adulteration and to many substitutes. This is horrible. Men, women and children, denied by the laws the right to purchase pure medicine at reasonable rates, seek substitutes that are ineffective, or are given adulterations that are poisonous. This is a strange commentary upon our civilization. It would be safe to say that more persons are murdered in the South by the tariff on quinine than even the Chicago *Tribune* believes are killed by the Kuklux and bulldozers. It is a matter of supreme interest to this section; it is of far more importance than the repeal of the election laws or the election of the next President. And yet our people seem to be indifferent. It is strange that, with all the clamors for a national quarantine, the tariff on quinine, which invites yellow fever, should be allowed to stand almost unchallenged. In order to reduce the tax on tobacco, the business community was alarmed by an agitation that shook the entire commercial fabric from center to circumference. And the tobacco tax was repealed. But for years three or four men have, by playing one interest against the other, succeeded in defeating the will of the people in this regard. It would indicate that tobacco is a matter of very much greater importance than quinine. Mr. Reagan has introduced a bill in Congress to repeal this tax on quinine. The passage should be demanded not only by a solid South, but by a solid North. For protective tariff on other articles some defense can be pleaded, but the tax on quinine is nothing but blood-money. The American Medical Association will meet in Atlanta next month, and it should give this subject grave consideration. It is of greater importance and of more immediate importance than any other question it can discuss. The Kentucky Association two years ago passed a resolution calling for a repeal of the tariff on

quinine, and every medical association should do the same.—*Evening Post and News.*

INCONTINENCE OF URINE OF EIGHT YEARS' DURATION RELIEVED BY CIRCUMCISION.—The following case illustrates the prompt relief that can often be afforded in cases of reflex disorders by removing the peripheral source of irritation, even though the duration be sufficient to lead us to expect some continuation from habit. M. L., æt. 15 years, had suffered from incontinence of urine for eight years. During that period he had not voided his urine once in a normal manner, but was subject to a constant urinous dribbling from the penis day and night. At times he suffered severely from pain in the penis and hypogastric region, which was attributed to some vesical disorder. In the autumn of 1877 he entered Troy Hospital as a surgical patient, but left after remaining a few weeks, having been subjected to no treatment. He was re-admitted in October. 1878, and was repeatedly examined for stone in the bladder, or other vesical disease, but with negative results. My attention was called to him in February, 1879, during which month I was on service at the hospital, and I was requested to examine him with a view to the relief of his distressing condition. From the constant stillicidium of the urine his clothes were wet and offensive, no measures having been found practical to collect the urine in a suitable reservoir. He was still subject to frequent and very severe paroxysms of pain in the penis and hypogastric region, and, taken all in all, he was a disgusting and pitiable object. I found that he possessed an unusually long and somewhat thickened prepuce; that the orifice was small, and the glans penis, as felt through the foreskin, was exceedingly sensitive. The pain and nervous excitement resulting from the gentle manipulation of the glans penis during my examination led me to conclude that the probable cause of the trouble lay in the phymosis. To complete the diagnosis, however, I placed him under the influence of chloroform, and having satisfied myself that no condition existed in the pelvic organs to which the symptoms could be properly attributed, I availed myself of

the condition of insensibility, and performed circumcision, removing a liberal portion of the prepuce. The effect was very marked, and though the exposure of the inflamed and exceedingly sensitive glans was a source of suffering, yet immediately after the operation he was able to retain his urine for a period of two to three hours, for the first time in eight years. The bladder rapidly improved in tolerance, and he progressed favorably in every way; but, owing to disorderly conduct and his indifference to cleanliness, which resulted from his eight years' experience, he was discharged from the hospital March 18. He called on me a day or two previous to the writing of this (April 9, 1879), and reported himself free from any trouble or inconvenience in connection with the urinary organs, while at the same time he had acquired a proper sense of his duty in regard to the cleanly care of his person.—*C. E. Nichols, in Med. Record.*

Priority in Cholecystotomy.—In a note received from Dr. G. W. H. Kemper, of Muncie, Ind., the priority of this operation is considered as follows:

Dr. W. W. Keen, Philadelphia, reports a case of cholecystotomy in the Ameriaan Journal of the Medical Sciences, January, 1879, and on page 139 remarks: "Originally proposed by Petit and later by Maunder and Hughlings Jackson, so far as I know this is only the second case in which cholecystotomy has been done. The first will be found in the British Medical Journal, June 8, 1878, p. 811." [Sims's case.] It seems not to be known, or else forgotten, that the late Professor J. S. Bobbs, of Indianapolis, reported a case which was published in the Transactions of the Indiana State Medical Society for 1868, p. 68, entitled "Lithotomy of the Gall-Bladder." Although Dr. Bobbs was in doubt as to the true nature of the case when he commenced the operation, nevertheless the abdomen was opened, the gall-bladder exposed, incised, and the contents (fluid and calculi) removed. This is, if not the first, at least the first successful case on record. The case is unique, and just at the present time when the operation of "cholecystotomy" is likely to attract the

attention of the profession, ought not to be overlooked. I speak to the praise of his memory.—*American Practitioner.*

THE POPULATION OF THE GLOBE.—The last number of Petermann's *Communications Geographiques* contains fresh estimates of the population of the globe. According to recent researches the population now numbers about 1,439,137,980 souls. This figure, however, is only approximate to the truth, as in the cases of many countries, particularly China, Africa, Australia and Polynesia, exact data are wanting. Europe has 312,398,480 inhabitants; Asia, 831,000,000; Africa, 205,210,500; Australia and Polynesia, 4,413,000; America, 86,116,000. It is an average of 500 inhabitants for every square mile of the surface of the globe. After having estimated the number of men existing on the earth, the German statisticians next turned their attention to the equine race. The number of horses at present existing on the globe, exclusive of China and Japan, seems to be about 58,000,000. Of this number the contingent of Russia is about 21,750,000; that of the United States, 9,504,000; of the Argentine Republic, 4,000,000; Germany, 3,352,000; France, nearly 3,000,000; Canada, 2,264,000; Great Britain, 2,225,000; Hungary, 2,179,000; Austria, 1,367,000; Turkey, 1,100,000, etc.—*Med. Rec.*

VIBURNUM PRUNIFOLIUM.—I have had much and varied success in the use of viburnum. At first I used the viburnum in cases of abortions and miscarriages, and always with success if the membranes had not been ruptured previous to my visit, as the following cases will show, representing also many others: On the 28th of November last I was called to see Mrs. W——; found her having active labor pains every five minutes. She was six months pregnant—the membranes not ruptured. I gave one teaspoonful tincture viburnum. In twenty minutes repeated the dose. In ten minutes more pain stopped and the woman asleep. I ordered medicine repeated upon least return of pain, and for a few days to take a dose every four or six hours. Child carried to full term.

The following day I was called to see Mrs. B——, in labor, at full time. Child delivered, and followed by hæmorrhage. I used means to stop that immediately, and in one hour left the woman doing well. In a few hours was recalled and was urged to give "something to stop these severe and unbearable after-pains." Now I immediately reasoned in this way: If viburnum pays its attention directly to the womb to stop pain in an abortion, why will it not stop pain after delivery? Two doses given as above stopped the pain, and ordered to be repeated if necessary. The case had no further trouble. Now can it be objected that it is not best to stop after-pains? Do after-pains protect parturient woman in any way? If it is nature's own work for her protection, then why do some women never have after-pains? With viburnum, I think I can safely say, let no woman suffer with them. Recently I have prescribed the viburnum in mænorrhagia, lessening and controlling the flow; and in dysmænorrhœa, controlling the pain at will; and in one case of uterine neuralgia I used it with marked and almost certain effect. This opens up a wide field in practice, and I would like to hear of the experience of "our medical friends" generally through the *Record*, in the use of this agent.—*Southern Medical Record.*

A New Remedy—Sabal Serrulata—Saw Palmetto.—The sabal serrulata is indigenous to the southern coast, near Charleston and Savannah, and many places along the coast of Florida. Medical attention was called to it by its superior fat producing properties in animals that feed upon its fruit. It was noticed that as soon as the berries matured, that the animals that feed upon them grew very sleek and fat. A physician (Dr. Read) noticing the very marked health of the animals that feed upon the berries that grew upon the sabal serrulata, concluded to try it as medicine, and the result was that he found the berries to improve the digestion, increase flesh, strength and weight and readily relieve irritation of mucous tissues, especially that of the nose and air passages. He used it in catarrh, ozœna, and chronic bronchitis, with prompt success. One experimenter used it in whooping-

cough with prompt success. There are several persons using it in this city, and they say with happy success, in catarrh and and ozœna. Several persons used it here last winter in old bronchial coughs, and they say with the best success. I took a dose of it one hour before meal time, and it gave me an appetite for my dinner, which I had not had for some time. I am fully of the opinion that it will prove valuable in coughs, colds and debility generally. Try it.—*Medical Brief.*

Ergot in Sunstroke.—Dr. R. F. Dedrickson reports (*Dublin Jour. of Med. Sci.*, October, 1878) two cases of heat apoplexy treated by him last July in Calcutta, with ice at the nucha, fluid extract of ergot internally. In one case, where the cardiac action was strong, he added three minims of tincture of aconite to the fifteen minims of ergot given every hour. A good recovery was obtained in both cases. Several less severe cases were similarly treated with success. Dr. Dedrickson suggests that in cases where the power of swallowing is gone, the hypodermic injection of ergotine should be tried.

Tape-worm in a Child Aged Twenty-two Months.—Dr. N. R. Derby, of Bergen Point, N. J., writes: I notice in the *Record* of January 18, 1879, the report of a case of tape-worm in a child three years old. Having had recently a case still younger, I send particulars for your disposal. Baby H—— was twenty-two months old when the mother noticed that the passages were studded with white patches, and at times almost entirely composed of them. At length becoming alarmed, she brought me some of these specimens for examination, which I found to be pieces of Tænia solium. The child lives near by, and was under my observation nearly every day. It seemed to be in perfect health. The following was ordered given on an empty stomach:

℞. Ext. felicis liq . . . . . mxxx.
Syr. zingib. . . . . ℥ij.
Mucil. trag. . . . . ℥ij.
Aquæ . . . . . ℥j. M.

One-half to be given for a dose and repeat. This brought away patches of two and three feet in length for a time. As the pieces began to appear again after a few weeks, pumpkin-seed tea was freely given while the child was fasting, followed by castor oil. This was efficient, and brought away twenty feet and the head. Adding to this what the parents had already secured and saved at my request, I find by measurement forty-five feet, and the parents are convinced that at least half that much was lost before the child was brought to my notice.—*Medical Record.*

Regulation with a Vengeance.—It is said that a bill is pending before the Texas legislature, and that it will probably pass, providing that every medical practitioner in that state, without regard to age or length of practice, shall submit to examination before a board every three years, and unless he convinces the board that he is making satisfactory progress in his studies his license to practice is revoked. We are not informed who is to examine the board. Probably this duty will devolve upon some non-medical health commissioner. We respectfully call the attention of our own legislative Solons to this. If the general assembly of the state proves unequal to the task, the municipal assembly might be induced to adopt an amendment to Ordinance 10,386 to this effect. We do not for a moment doubt it would be just "as good law" as the ordinance as it now stands.—*St. Louis Clinical Record.*

A Novel Method of Ventilation.—The influence of mind over matter is well exemplified in the following: A gentleman, a fanatic on the subject of ventilation, was compelled to sleep one night in a small room at a hotel, and with a bedfellow. After undressing and putting out the gas they lay quiet for some time. Presently the ventilation party grew restless, crawled out of bed, and, fumbling around for the window, tried to raise it. It would not budge an inch. "I'm nearly stifled," he said; "do you object, my friend, to my breaking out one of these panes?" "No," came the reply. Wrapping a towel around his fist, he broke

out one of the panes. For a time he felt better, but concluded that the air would be improved if he broke out another. He did so, and with many joyful sniffs and open-mouth inspirations turned over and went to sleep, fully satisfied. In the morning the first thing that met his eyes was a book-case that stood in front of the window, with two panes broken out of its glass door.—*Cin. Lan, and Clin.*

A Free Advertisement.—The following advertisement of the *Medical Herald* is taken verbatim from *The Age* of April 26, with the extra benefit of giving its leading inducements in italics. The *Herald* has accomplished so much *in utero*, that this announcement is given with the special view of preparing the world for the birth of this "Prodigy of Journalism," which will take place on or about the first of May:

"The Medical Herald.—A Monthly Journal of Medicine and Surgery. Including all the leading specialties. It is divided into departments of Medicine, Surgery, Women and Children, Eye, Ear and Throat, Miscellany and Editorial. It will always contain fresh contributions from the best practitioners in every branch of Medicine and Surgery ; it will publish such items of news as have especial interest for the profession. It *is immensely popular* and offers the *best medium* for advertisers of *any Journal* in the *South* or *West*. It *is* the *representative organ* of the popular sentiment of the profession. Terms $2.00 a year in advance. Send two cent stamp for specimen copy. Address all communications to Dudley S. Reynolds, M. D., Editor and Proprietor, 242 Fifth Avenue, Louisville, Ky."

A Worthy and Useful Undertaking.—Dear Sir: I am preparing for the American Laryngological Association a report of what has been published in this country on laryngology and allied subjects, and shall appreciate it as a favor if you will inform me of the title and publication of every thing you have written on the subject of the throat, voice, &c. If you can send me a copy of the article itself, so much the better. If either long ago or recently anything has been

published by some one else, which in your judgment would be likely to escape my attention, no matter how unimportant it may seem, please mention it in your answer. Sincerely yours, Louis Elsberg, M.D., 614 Fifth Avenue.

This note is addressed to each reader of this journal.

A Brave Hoosier Girl.—Living in a plain cottage situated between two farms on the main settlement near Portville, about seven miles from Olean, is a young woman named Mary Langdon. Her mother has been almost a helpless invalid for many years. She herself has long suffered with a terrible cancer on the upper part of her left arm. To cure this or to alleviate the torment of mind and body which it has caused has been her constant thought—her ever-present care. The aid of competent physicians has been called in and every kind of treatment resorted to, but with no hopeful result. Expert medical men pronounced the case a hopeless one, and the poor girl was regarded by all and by herself as the doomed victim of the dreadful disease. A lady doctor of reputed skill in the treatment of cancer recently visited the sufferer, but gave no word of encouragement. After she had gone Mary shed no tears, but resolved upon a desperate and dangerous expedient, and when she had resolved speedily carried her design into execution. She ran a stout needle beneath the cancer, drawing a thread through it. With this thread she tied the artery, using her teeth to aid her. She then took a sharp table knife and cut the cancer—which was of unusual size—out of her arm. This done she took the mass of quivering flesh which she had removed from her arm, and without a word to any one buried it in the rear of the cottage. So quietly had the girl gone through with the terrible operation that no one in the house was aware of it until some time after. Having bound up and covered the terrible wound in her arm, she went about her household work as usual. Of course the result of this fearful piece of surgery is difficult to predict. The girl is not at present suffering any ill effects, and it is sincerely to be hoped that so much courage and endurance will be rewarded by a complete cure.—*Olean* (*Ind.*) *Times*.

POWDERED GUM-ARABIC.—According to Dr. Hager, powdered gum-arabic, under prolonged drying before pulverizing, not only undergoes a loss of its natural moisture (as high as ten per cent.) but also a slight change of properties, as indicated by its power of reducing at a gentle heat the potassic solution of copper. After some time it loses its ready solubility in water, and consequently oily emulsions are not so easily made with it. Hager therefore advises that gum-arabic be kept only in a moderately fine state, and that in moist or cold weather it be dried no longer than one day in a warm place (about 80°), in which case it will lose only about two per cent. of its weight.—*New Remedies.*

THE DEATH-RATE IN RUSSIA.—In the year 1877 Russia seems to have had the heaviest death-rate of any county that keeps mortality statistics. According to the recent report of the Medical Bureau, in a population of eighty million, deaths occurred at the rate of from thirty to fifty per thousand. Diphtheria caused the largest mortality, next typhus, and then small-pox.—*Lancet.*

MEDICAL NEWS.

"Nulla dies sine linea."

"WHAT'S IN A NAME?"—We give below a list of bona fide names of doctors: Taxis, Paine, Ache, Blood, Physic, Catlin, Clapp, Coffin, Butcher, Hand, Foote, Hart, Jelly, Leech, Mixer, Pray, Priestly.—*Ohio Med. Recorder.*——— Four cases of leprosy are reported in the *Archives of Dermatology* as occurring in Minnesota, all of them natives of Norway and Sweden.———A German scientist has preserved drinking water containing much organic matter for three years by adding one grain of salicilic acid to one pint. The water was kept in a stoppered bottle, which was opened from time to time, and it tasted perfectly fresh at the end of the three years.—*Am. Journal Pharmacy.*———A gentleman having lost nearly all his hair after fever, consulted a French doctor who had acquired great reputation in the treatment of such affections. The prescription was a drachm of the tincture of phosphorus to one ounce of castor oil; the bare

scalp to be rubbed with this mixture three times weekly for half an hour each time, after the skin of the head had been thoroughly cleansed with warm water without soap. In about six months the hair began to grow, and in a year was as thick as ever, the new hair being about two shades darker than it had been before.—*Prog. Med.*———Dr. Eichler, assistant in the Pathological Institute of Kiel, records (*Archiv. fur Psychiatrie*, Band viii., Heft 2 S. 355), a case of absence of the corpus callosum. Fifteen cases of this anomaly have been heretofore recorded. What renders this case particularly interesting is that, notwithstanding so serious a defect, there was during life no physical derangement.—*Brain.* ———Dr. Grellety (*Lyon Med.*) has observed that hiccough in children was immediately stopped by giving them a lump of sugar saturated with table vinegar. The same remedy was tried on adults, with similar instantaneous success. Another remedy, which may even be considered more handy, was mentioned by a Russian priest to a lady, and has always proved very efficacious. It consists in looking fixedly for about five minutes at the blade of an open penknife, without either speaking or laughing. The remedy has been tried innumerable times, and has never proved unsuccessful.—*Phil. Rep.* ———In a recent lecture, Dr. B. W. Richardson, of London, states that the credit of having introduced chloroform belonged to the late Sir James Simpson, of Edinburgh. Its introduction and application were objected to on religious grounds, some people contending that man, according to Scripture, should endure pain and trouble throughout life. Sir James Simpson threw the Scriptural argument back upon those who used it, by saying that when the first man had an operation performed upon him he was put in a deep sleep, and knew nothing of the time when the rib was taken from him. Similar objections are now offered by many religious people, to prevent the spread of syphilis and gonorrhœa. —*Cincinnati Lancet and Clinic.*———Diastased iron is prepared by soaking cress seeds in a solution of iron. The seeds of course absorb the solution and begin to sprout. The process is then stopped and the seeds dried and sugar-

coated. Diastase is of course formed when the seed begins to germinate. Arsenic and iodide of potassium are diastased in a similar manner.—*Med. Record.*———Mr. Frank Buckland, in *Land and Water*, describes a curious water tortoise from China that had been presented to him. It is a terrapin which apparently has hairs growing out from its back. These apparent hairs consist simply of some water grass, something like the weedy material growing in decaying wood-work and lock gates of rivers. Whether the growth is produced artificially by the Chinese, or whether it is natural, is not known. —*Scientific American.*———The new Swiss self-luminous clock dials are rendered visible in the dark by covering the figures with the sulphide of calcium, which has long been noted for its phosphorescence. Its remarkable qualities in this respect are evident from the fact that it was visible in total darkness after having been closely shut up in a box for five days.—*Southern Med. Record.*———Dr. J. B. Murfree, in *Medical Brief*, says: I have noticed several remedies for poisoning by rhus, or the poison oak vine. Permit me to call attention to the black wash (U. S. Dis.) calomel and lime water. I have used it for several years past with invariable success. I do not believe in specifics, but this remedy approaches as nearly being a specific as any I know of.——— Mr. Luton, of Rheims, employs a mixture of one part of tincture of ergot in five parts of alcohol at 90°, by hypodermic injection, in the treatment of inorganic retention of urine. The dose he employs is from seven and a half to thirty drops, fifteen drops of the solution being equal to three grains of powdered ergot. He has used it in the paralysis of the bladder accompanying typhus, confluent variola, and acute hydrocephalus. He makes the injection in the fossa behind the great trochanter. Within half an hour, and sometimes within a few minutes, a complete and forcible evacuation of the bladder takes place. He has never observed an eschar of the skin or a gangrenous abscess after the injection.—*Le Lyon Medical.*———In the common form of nervous headache no measures will give such prompt relief as the use of a diffusible stimulant. Ten drops of sulphuric ether on a lump of sugar

will frequently give ease in half an hour.—*Cin. Lan. and Clin.* ———Sixty soldiers of the garrison of Thionville lately fell sick of trichinosis, and two of them died. It has been ascertained that the disease arose, not from pork, but from the flesh of geese which they had eaten.—*Southern Med. Record.* ———Dr. J. Dell Orto (*L' Independente of Turin*) has come to the following conclusions: (1) Sulphate of copper is very useful in diseases of the skin produced by deficiency of nutrition or poverty of the blood, such as pellagra, scrofula, chlorosis, etc. (2) Its trophic action is rapid, constant and innocent. (3) It is best administered in pills in progressive doses, from one or two to seven centigrammes a day.—*New Orleans Med. and Surg. Journal.*———Dr. Formica Corsi states that he has cured with iodide of potassium cases of persistent vomiting that proved rebellious to the usual methods of treatment, and that he has known it to be equally successful in the hands of other practitioners. He cites the case of a woman who was suffering from typhoid fever, and was at the same time in the second month of pregnancy. The vomiting resisted all the known anti-emetics. Finally he ordered a teaspoonful, every hour and a half, of a mixture consisting of half a grain of iodide of potassium in three ounces of water. On the following day the vomiting ceased. Dr. Giné confirms this statement concerning the anti-emetic properties of the drug, and states further that when given in doses of one-sixth to five-sixths of a grain per diem, it possesses decided laxative qualities.—*Gazette Obstetricale.*

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

Homœopathy.

The article on homœopathy in the miscellaneous department of this journal is not only very interesting in itself, but is well worthy of careful thought and attention. It teaches a very significant lesson which the physicians throughout the

country can and ought to profit by in their constant and unavoidable contact with quackery. The aggressive movement of the homœopathists upon the University of Michigan, with the avowed expectation of breaking up the regular medical department, and their speedy and most unlooked for defeat, can scarcely fail to convince one that the homœopathists themselves have disclosed to their watchful foe their weakest and most vulnerable point. They have discovered their blunder too late, and their endeavors to repair it can not avail if the bearing of the regular profession toward them be changed so as to take advantage of their present discomfiture.

Homœopathy, left to itself, treated with contempt and disdain from its beginning, has quietly and undisturbedly intrenched itself in the minds of the people. It is not dying out as has been so confidently asserted. It is steadily on the increase; nor can its growth be wondered at when the causes of it are sought for. After all, nature is the great physician in whose wake the homœopathist moves, and gives his pleasant granules and dilutions. The patient gets well naturally and comfortably without having taken a nauseous dose, and gives the honor and praise to the doctor. This is a factor of success equally in the hands of all, but with the homœopathist recovery takes place under a more mysterious and agreeable treatment, and he gets the greater credit. Moreover, the homœopathist in a great many instances has been a regular practitioner, is thoroughly educated, and of most agreeable and winning manners. Is it to be wondered at then that people are deceived who know nothing of medicine, who meet these pleasant doctors, read their sensational pamphlets about "Why I became a Homœopathist," without ever seeing them contradicted or exposed, and see them looked down upon and ignored by men, in the popular estimate of gentlemen, not a whit their superior, and very often their inferior? This to the people is incomprehensible, and is sure to be misunderstood and create sympathy for the outcast homœopathist. The wonder is that homœopathy has not progressed more rapidly than it has.

How is this most respectable system of charlatanism, which

disdains the common herd of humanity, and strikes at the very fountain heads of society, to be met? The course to follow seems blazed out by the experience of the University of Vienna, the University of Pesth, and in this country by that of the University of Michigan. Physicians should affiliate as much as possible with their imaginative and credulous brethren, visit them in their homes and in their offices, call them into consultation and meet them in consultation when practicable, and make the effort to force into contrast when opportunities present the different proceedures. They should bring them out before the people in the same light as themselves; treat them as gentlemen, and enforce the like from them.

It will be urged that they are dishonest, and that no one could with self respect associate with them after this manner. It is confidently asserted that homœopathists are as honest and as upright as any class of men. To deny it would be as unnatural and unjust as for a prejudiced German or Republican to deny that there were any honest Frenchmen or Democrats to be found.

It should be endeavored to put them on an equal footing in the "struggle for existence," and all chances being the same, it will follow just as surely as there is a law in nature of the "survival of the fittest" that truth and science will prevail, and homœopathy will fade away as inevitably and as rapidly as the savage before the irresistible civilization of the white man. It would be wise also for physicians to make themselves acquainted with the doctrines taught in homœopathic colleges, and to keep constantly on hand a case of homœopathic specifics. Let the public see what homœopathy is; dose it with sugar pellets until it is surfeited, and from continued familiarity acquainted with their true nature and value. Homœopathy, like all delusions, to be dispelled must first be exposed. Honest homœopathy is the subject of these remarks. Pretenders and imposters, the lepers of a profession, should be seen only to be shunned. The writer is aware that some of this is contrary to the teachings of the Code of Ethics. But the code does not deny one the privilege of expressing his convictions.

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I. *The Relations of Ametropia to Some Forms of Inflammatory Lesions of the Eye and Lids.* By WM. M. MASTIN, M. D. (late House Surgeon to Wills Eye Hospital, Philadelphia), Mobile, Alabama.

In a brief paper relating to this subject, Dr. Keyser, of Philadelphia, writes: * * * "I have looked over the following recent works on ophthalmology: Stellwag, Wecker, Galezowski, Schweigger, Wells, Graefe and Saemisch, Tetzer-Gruenfeld, Von Graefés Archiv., Zehender's Monatsblätter, Ophthalmic Hospital Reports, Annales d'Oculistique, Journal d'Ophthalmologie, Archives for Ophthalmology and Otology, Donders on Accommodation and Refraction, and Nagel's Jahresbericht, without finding any mention of this connection of ametropia and blepharitis."* In addition to these authorities, many of which I have myself consulted, I have examined Carter on the Eye, Macnamara's Diseases of the Eye, Mackenzie, Jones, Lawrence and Dickson, with the same result, and, although the influence of refraction on some of the inflammatory diseases of the eye and lids have been doubtless noticed † by many ophthalmologists, still they have

* Blepharitis and Ametropia. By P. D. Keyser, Surgeon to Wills Eye Hospital, Philadelphia. Philadelphia *Medical Times*, March 17, 1877.

† In speaking of phlyctenular ophthalmia, Dr. Carter says in his advice as to treatment, "Examine into the state of the health, into the acuteness of vision and the state of refraction," * * * but does not seem to regard errors of refraction in the light of a cause. No such reference made in blepharitis.

failed to record the fact; and hence, I may safely venture to say that the connection of these lesions with ametropia have not been to any extent recognized by the profession.

The first published account of such a relation, of which I have any knowledge, was an article by Dr. George T. Stevens,* of Albany, N. Y., read before the Ophthalmological Section of the International Medical Congress, held in Philadelphia, 1876, in which he details the history of two cases of recurrent phlyctenulæ cured by convex glasses, a hypermetropic refraction being discovered; and also mentions that, in examining the record of one hundred and fifty cases of corneal lesion, eighty per cent. presented serious degrees of refraction.

This paper was soon followed by another, entitled "On the Relations of Belpharitis Ciliaris to Ametropia," from the pen of Dr. Roosa,† read at the meeting of the International Ophthalmological Congress, held in New York, in September, 1876, which called forth a most interesting discussion.

The next references to the subject, which I have been able to find, were the two papers of P. D. Keyser, one already alluded to, and a later one‡ presented at the annual meeting of the Medical Society of the State of Pennsylvania, for 1877.

Contained in these last papers are the condensed notes of eighty-six cases of inflammatory diseases of the eye and lids, with a refraction as the evident cause of the trouble, which were relieved or benefited by the constant use of glasses neutralizing the refraction. The diseases composing these statistics were as follows: Blepharitis, including hordeola, 34 cases; conjunctivitis, including the simple, follicular and granular varieties, 29; phlyctenulæ, 8; pterygium, 14; and eczema of the upper lid, 1.

As far as I am aware these are the only publications referring to this important subject that have been offered to the

* Vide Transactions International Medical Congress, Philadelphia, 1876, p. 942.

† American Journal Medical Science, October, 1876: Keyser op. cit.

‡ On some forms of inflammatory diseases of the eye, being caused by defects in refraction and accommodation, extracted from Trans. Med. Soc. State of Penn., 1877.

profession in this country; and, on account of the scarcity of the evidence in this direction, I have been induced to present a short history of the subject, for the perusal of those particularly who do not make a special study of ophthalmic troubles, and also to add a few cases of my own in substantiation of the views of the gentlemen who have already advanced these ideas.

During my term of office in the Wills Eye Hospital, Philadelphia, it was the practice of the attending surgeons of the institution to inquire minutely into the refractive condition of the eyes of all patients presenting themselves with chronic inflammations of those organs, and especially was this inquiry made in the different forms of blepharitis.

Dr. Keyser* mentions that, in his clinic at the "Wills," in 1876, there were twenty-four cases of blepharitis with refractions; and I well remember the large number that occurred in the clinics of the other attending surgeons during the same year.

Of the cases that have come under my notice in private practice, I shall transcribe a few from my case-book, presenting marked benefit in the attending inflammations from the proper correction of the refraction present.

In all the accommodation was thoroughly paralyzed by atropia, in order to obtain the accurate degree of refraction, and although the ophthalmoscope was first used in each case before the instillation of atropine, I preferred to use the drug afterward, that no error might be made in the smaller degrees of deviation from the normal standard.†

The cases which I wish to note are as follows:

(I) *Simple conjunctivitis. Weakened rectus externus in R.*

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*Loc. cit.

†NOTE.—I am well aware that some ophthalmologists prefer to be able to detect the smallest degrees of refraction with the ophthalmoscope; but the majority of the profession deny their power to do so, and say that it is almost impossible to overcome both their own and the accommodation of the patient so accurately that a small degree of refraction—especially astigmatism—may be detected. I have appreciated this fact, and hence, whilst depending upon the ophthalmoscope for the grosser amounts, always call to my aid atropine for the smaller degrees.

E. Refraction hypermetropic. July 12, 1878. Master R. M. Conjunctivitis of long duration and much increased by using eyes at close work, especially reading by artificial light. Examination found V in O. D.$=\frac{20}{c}$; O. S.$=\frac{20}{xx}$. Atropine applied V in O. D.$=_c$; O. S.$=\frac{20}{xx}$. With+18 V in O. D. $=\frac{20}{lxx}$; and with+20 V in O. S.$=\frac{20}{xx}$. Case progressed nicely; inflammation rapidly subsided, and no return to date.

(II) *Blepharitis ciliaris, with recurrent hordeola. Hypermetropic astigmatism.* February 11, 1877. G. L. B., age fifteen. Unable to read or study with comfort for some time past, on account of pain, etc. Since close application to books, some eight or ten months ago, lids have become inflamed, and frequent styes occur. Treated by numerous local applications with only temporary relief, the symptoms returning as soon as eyes were again used. V in both eyes$=\frac{20}{xviii}$. *Atropine applied* V in O. D.$=\frac{20}{xl}$; in O. S. V$=\frac{20}{xxxv}$. With+60$_c$ax 55° in O. D. V$=\frac{20}{xx}$; and in O. S. with+72 $\bigcirc$ +60$_c$ax 130° V$=\frac{20}{xx}$. Has now been wearing glasses for two years, with entire relief of troubles.

(III) *Blepharitis. Hypermetropia.* April 24, 1877. Miss M. E., age eighteen. Suffering with eyes for a year or more. Had no trouble until commenced music lessons about that time, which required long and close use of eyes. Lids became sore soon afterward, and remained so. Has employed numerous "eye waters" without benefit. In both eyes V$=\frac{20}{xx}$. Atropia applied, reduces V to $\frac{20}{xxv}$; and+72 raises it to $\frac{20}{xx}$. No trouble since wearing glasses.

(IV) *Blepharitis and conjunctivitis. Hypermetropia and compound hypermetropic astigmatism.* June 6, 1877. B. W. M., clerk. Has been afflicted with "sore lids" since his school days. Close work, especially by gaslight, increases the lid trouble, and in addition develops a catarrhal conjunctivitis. In both eyes V$=\frac{20}{xx}$; but atropine brings out in O. D. a compound hypermetropic astigmatism, which is neutralized by+60 $\bigcirc$ +60$_c$ax 120°; and shows in O. S. a hypermetropia of $\frac{1}{48}$. These glasses bring up V in both eyes to $\frac{20}{xx}$ or normal.

(V) *Blepharitis marginalis. Hypermetropia,* $\frac{1}{36}$. March,

1879. E. S., in commercial life. Has suffered with inflamed lids for several years. Always rendered worse by use of eyes, especially in reading and writing. In both eyes V=$\frac{20}{xx}$. Atropia discloses a hypermetropia of $\frac{1}{36}$.

(VI) *Blepharitis and papillary conjunctivitis. Hypermetropia.* September, 1878. Miss M., sewing girl. Lids inflamed and covered with crusts. Ciliæ stunted and sparse. Chronic conjunctivitis of ten years' duration. In both eyes V=$\frac{20}{xx}$. Atropine shows a hypermetropic refraction of $\frac{1}{30}$.

(VII) *Blepharitis and conjunctivitis.* Mrs. L. B. Has been troubled with lids and eyes for a number of years, and treated by collyria *ad infinitum* without relief. A high degree of hypermetropia found, but she refuses to wear glasses.

(VIII) *Blepharitis and hordeola.* December, 1878. Mrs. M. Florida. Recurrent styes for many years, and constant inflammation of lids. Getting worse. Her house occupations require her to use eyes constantly at close work. In both eyes V is normal ($\frac{20}{xx}$). Atropia brings out a simple hypermetropia of $\frac{1}{30}$. Lately reported herself as almost well.

(IX) *Papillary conjunctivitis.* September, 1878. Mr. H. W. Bookkeeper. Condition existed for a long time. No treatment afforded any benefit. Symptoms increased by use of eyes. In both eyes V=$\frac{20}{xx}$. Atropia applied, shows a hypermetropia of $\frac{1}{42}$.

(X) *Blepharitis and conjunctivitis.* May, 1877. Mr. M.; of twenty years' duration. Find a hypermetropia; also, a presbyopia of $\frac{1}{20}$. Refuses to have hypermetropic refraction corrected, but wears+20 glasses for reading, with almost complete relief of his symptoms.

Each of these cases was evidently dependent upon and kept up by the refraction which existed, since they were all relieved or benefited by its correction, though all medicinal measures had signally failed. It is interesting to note that the refraction was hypermetropic in every one; being of the simple form in 8, and associated with astigmatism in 2. This agrees perfectly with the investigations of both Dr. Stevens and Dr. Keyser; for in relation to cause, they found hypermetropia was far in advance of all other refractions. Dr. Stevens classes the causes thus:

"Among the refractive errors, hypermetropia seems to rank first as a cause of corneal affections; second, astigmatism; and third, unequal degrees of myopia."*

In Dr. Keyser's cases hypermetropia ranked most decidedly above the other forms as a cause; next came the forms of hypermetropic astigmatism; then myopia; myopic astigmatism; mixed astigmatism; and unequal degrees of myopia. Among the affections seemingly produced by errors of refraction were blepharitis, conjunctivitis, phlyctenulæ, hordeola, pterygium, and eczema of the lids, which were in frequency in about the order named.

With the information furnished by the cases herein contained, in connection with the views expressed by the distinguished gentlemen quoted, we may fairly conclude that,

First—Erroneous refraction is undoubtedly a very frequent cause of some forms of eye and lid inflammations;

Second—The different forms of lid affections are more frequently thus produced than those of the eye; and

Third—Hypermetropia ranks first among refractive causes.

Having thus concluded that inflammations of both the eye and lids are often the result of a deviation from the normal refractive state—even though very slight—the most pertinent question is, How do such deviations produce such results?

In a careful consideration of the dioptric system, we find in the normal or healthy eye that the media through which light travels to reach the fundus oculi have a certain degree of refraction which focuses the rays of light upon the sensitive retina, producing perfect vision; and it can be readily understood that when there is the slightest increase or diminution in the refraction of these humors rays of light are either brought to a focus before (myopia) or meet beyond (hypermetropia) the retinal tunic. In either case, then, whether rays unite in front of or behind the retina, the image produced is necessarily blurred and indistinct, and in order to obtain a sharp cut outline, the eye endeavors to overcome the deficiency, and a strain of the muscles of accommodation is the result.

* Lac. cit. p. 944.

This tension, following the law of muscular action elsewhere, causes a determination of blood to the eye and adjacent parts, and a congestion follows. This strain, long applied, keeps up a constant engorgement of the blood-vessels in the parts; and in the case of the lids, a mechanical obstruction exists to the outflow of the secretion from the minute glands in the substance of the lids, producing an inflammatory and ulcerative action in their ducts, at the roots of the ciliæ, or a blepharitis. In the conjunctiva the constant vascular engorgement soon sets up a swelling and thickening of this membrane, and we have one of the forms of conjunctivitis, as the case may be.

With this explanation it is evident why hypermetropia should be found more constantly in attendance than all the other refractive errors, since this state requires a greater convergence of the eyes for accurate vision; and with this increased muscular exertion, the troublesome train of engorgement, thickening and inflammation is most apt to follow.

Dr. Stevens suggests that such troubles may result from reflex irritation operating in the same way. The irritation arising from the strain upon the ciliary muscle is reflected to the vaso-motor nerves supplying the part; and where a phlyctenula is produced the vessels passing to its site become clogged, nutritive material is cut off, and that portion less rich in nutrition suffers.

Laying aside, however, the mode by which erroneous refraction produces these troubles, the fact remains that they are very frequently effected by such errors; and I think it safe to assert that, if medical men would throw aside the old idea of blepharitis and some forms of conjunctivitis being always the outgrowth of struma, bad food and vitiated atmosphere, and pay attention to the acuteness of vision and refraction, they would effectually cure their cases.

I do not wish to be understood as saying that a refractive error is always associated with these maladies, but I do believe that the majority have this connection, and that the proper glasses will more often rid the patient of these annoyances than all the tonics and topical applications at our command.

ART. II. *Tracheotomy.* Operation by T. T. ROBERTSON, M. D. Reported by EDWARD WILLIAM AIKEN, M. D., Winnsboro, S. C.

The details which cluster around this operation of tracheotomy, and the different circumstances connected with the history of the little patient, are truly touching, and I venture the assertion that when the surgeon's story shall have been told, when we have heard of the ordeal of pain passed through by the subject of these remarks, of the anxiety experienced by his physician and friends, when we remember that a noble-hearted brother, as a tribute of reward for his perseverence, and as a guerdon of his toil, has been given the life of an attractive little boy whose steps had well nigh slipped, who, to all appearances, thrice had knocked at the golden door, and finding it ajar, almost did cross its eternal threshold—we will then have mingled with our sentiments of sympathy feelings of the deepest interest, gratification profound, and have formed some conception of the scene presented during the progress of the operation, the different steps of which I will endeavor to intelligibly delineate ere this article is closed.

On a cold and bleak Saturday morning in the month of February, 1879, there was a knock at the door of the residence of Dr. Robertson. When he responded to the call, there met his gaze a poor and timid mother with a nursing baby on her bosom, and two helpless, shoeless children by her side, and while trembling they stood, thrown out upon the cold charity of the world, "left only to Him who tempers the blast to the shorn lamb,"

> She, with a countenance depicting despair,
> Still, with a lingering beam of hope,
> To the physician thus addressed her prayer:

"Doctor, for God's sake remove from the windpipe of my boy that heart-rending grain of corn. I have no home—am desolate upon earth; I have no money, and am thought little of; I have no relatives to kindly greet me, and no friends to lend an aiding hand, so I am powerless, doctor, if you refuse my plea!" Thus was presented, gentlemen, to the care of the kind physician one of those numerous cases where we

have to respond to a duty without pecuniary reward, and where our professional services are not only gratuitously summoned into requisition, but where we are also required to exercise those benevolent qualities of head and bosom which characterize the "Good Samaritan," which arms our profession with the panoply of love, and adorns the blessed science with the mantle of Christian philanthropy.

To this request, coming from a source so dependent, under circumstances so piteous, unhesitatingly did the doctor respond, and through that humanity, which marks the good citizen, and with that charity which stamps the cultured physician as a fair representative of Him "who said peace on earth, and good will to all mankind," soon had this woman with her offspring clad in better raiment, their lips that were pallid with fasting moistened with bread and wine, and a comfortable home secured at the residence of an estimable lady, who, "by the by," with a wonderful nerve possessed by few of her sex, was useful indeed from the beginning to the end of the ghastly operation, to which directly I will make due reference.

Let us now hear the history of the *corn* prior to the operation. Upon interrogating the mother, she stated that near three weeks before the child had taken his seat in a pile of shelled corn, and a few moments afterward came running to her with eyes distended, nostrils dilated, lips purple, and with fearful efforts at inspiration.

As soon as the seizure subsided, dependent of course upon the sudden entrance of a foreign substance into the windpipe, she asked the child what was the matter; he plainly responded, "*A grain of corn is choking me.*" She immediately placed on her bonnet, and, though her baby was but one week old, trudged with a determination which only a mother's love can prompt a long and dreary ten miles to the nearest physician, and implored his aid; but she was doomed to a sad disappointment; the little fellow had to suffer still, for the doctor did not practice *surgery*, and he didn't have any surgical instruments, which unfortunately is the too frequent occurrence and condition of our country brethren, not only in the county of Fairfield, but in the state of South Carolina.

Returning to her lonely domicile she spun out an anxious existence for two weeks till her physical strength enabled her to undertake on foot a journey of a score of miles to the town of Winnsboro, where she yet hoped with quite a degree of certainty to receive that professional assistance so requisite.

During these two weeks, to add to her distress, at irregular intervals, from one to three times every day, the child was thrown into agonizing struggles for breath, lasting from three to five minutes, this consequent of course upon the shifting and change of position of the foreign body in the trachea.

With these remarks we are brought to the end of the three weeks, dating from the day of the entrance of the corn into the windpipe to Sunday, February 16, the day of the attempt for its removal.

The operation I will now describe. On entering the room Dr. R. requested me to prepare to administer the chloroform, and that Drs. Hanahan and Ladd would assist him if necessary in placing upon the table the muscular little chap, who already was crying vehemently, refusing to be quieted, and showing an inclination to do his "level best" against him; from his determination it was soon evident that entreaties were useless—he had to be managed *vi et armis*. I was ready; the moment he assumed the recumbent position I placed the anæsthetic to his nostrils; but ere this was done it was removed; we noticed a livid countenance, a frothy mouth, a gasp or two, and breathing ceased. A mutual feeling instantly permeated the bosom of each of us, and gave utterance to this: *Great God, he is dead!* We turned him about, threw water in his face, placed ammonia to his nose, manipulated the larynx and trachea, and after a little while four or five good inspirations were taken, his color became more natural, and he showed signs of an attempt to cry, although there was no sound produced. This was a gratifying sight, for if it was the chloroform that had done the mischief, he was clearly recovering from its effects. But scarcely had our hopes been aroused, when it was evident that he was rapidly sinking again, with a repetition of the symptoms displayed at the outset.

What was to be done? Dr. R. said: "The chloroform is not the cause of this state of things, but the foreign substance in the larynx, and I am going to cut down to the trachea any way;" no sooner said than done, but here he was met with a flow of blood that would have discouraged a Valpeau or an Erichsen. His knife had entered a plexus of veins which, under the circumstances, he could not avoid; no time being given for selecting a place at which to open the air-tube, no opportunity left for cautiously cutting down upon the same.

When he arrived at the trachea, as the child was yet breathing, he waited a few seconds, while we endeavored with styptics, snow, ice and pressure to arrest the hæmorrhage; but the patient's neck was too short and thick, his venous trunks too immensely gorged; so seeing our efforts futile, he boldly cut into the tube, while Drs. H. and L. and I at one and the same time hurriedly introduced a female catheter into the incision, down into the windpipe, inverted the boy, pressed ceaselessly upon abdomen and chest, and introduced hypodermically an ounce of undiluted whisky. Frightful bleeding continued all the time. Just as the perspiration began to trickle down our cheeks—though it was an icy cold day—we gladly noticed that the little fellow was going to stay with us yet awhile. This he did. But it was through breathing power truly remarkable. The diaphragm at every inspiration seemed with a superhuman agency to force itself so far up into the thoracic cavity, as if it would snap the ribs and drive the very lungs themselves through the lateral walls of the chest, while the muscles of the abdomen to all appearances touched and for a moment rested upon the spinal column.

It was for sure a sight to remember. Imagine this little boy held in the position with which Nelaton redeemed his rats, his tiny garments besmeared with oozing and clotted blood, while with lung effort immense and heart upon the stretch, he drew in the pure oxygen through that lucky catheter, and at agonizing intervals expelled through its cavity and around its sides the horrid carbonic acid gas and partially

coagulated blood that had well nigh snuffed out his little candle.

The child was held in the inverted position for at least fifteen minutes till the lungs had disgorged themselves, normal respiration had been re-established, hæmorrhage had ceased, and all the satisfactory symptoms of reviving life had displayed themselves.

Two hours after the operation, the child having recovered sufficiently, Dr. R. removed the catheter and provoked coughing by tickling the trachea, but the obstruction was not dislodged, and at last his search was a failure. Still hopeful, however, he then inserted the outer canula of a tracheal tube, secured it properly, gave the boy eight ounces of milk, which he drank eagerly through the spout of a teapot, and shortly afterward was sleeping soundly, remaining in this condition till the following morning. At 10 A. M. Monday the canula was removed and a second attempt made to remove the corn, with a result similar to the first; the canula was then cleansed, and with the inner tube re-inserted. Dr. R. was now convinced that the grain was among the vocal cords, and unless it was dislodged by the introduction of some instrument through the mouth into the larynx, that his chances for success were rather poor; he determined, however, to wait a few days, hoping that if there was not a firm attachment of the grain by the collection of gelatinous mucus, and a deposition of fibrinous matter, or if broncho-pneumonia did not set in, that the foreign body being softened from the absorption of the secretions of the larynx might dislodge itself, pass down near the opening, and then be extracted.

The child was carefully watched for four days, during which time no unfavorable symptoms presented themselves, but to the contrary, the little chap had accepted the situation with good grace, was in excellent spirits and health; but still his corn hadn't sprouted in either direction, so that we might get a glimpse or a pull at it. The boy's condition was so cheering that Dr. R. concluded to invent or appropriate some instrument with which he could reach the larynx *via* the rima-glottis, and feel among the vocal cords till the persistent grain should be dislodged.

On Friday morning I suggested the use of "Bellocq's sound" for plugging the posterior nares, which I had in my pocket-case; this was agreed to. Dr. R. attached to the end of the watch spring curve (of the sound) a tiny piece of sponge; while I removed the tracheal tube and chloroformed the patient through the incision. Each had now his respective duty to perform, so the doctor forced open the mouth, inserted the sound into the larynx, and moved it to and fro in quite a novel manner, while I watched with forceps ready at the opening in the trachea. Scarcely a moment elapsed when I saw the grain hurriedly pass by on its way to the bronchi; ere I had time to regret not seizing it, the child moved, coughed, and I handed the corn to Dr. R. saying, Here it is.

Now right then and there was a change from the sublime to the amusing, which I will mention directly. There was temporary closure of the opening, by pressure with the fingers, but finding respiration too difficult, the tube was re-inserted, and retained for twenty-four hours; it was then finally removed and the edges of wound brought in apposition with adhesive straps, these covered with soft compress and bandage. I am about to wind up a report which I hope has interested you, but before doing so, would call your attention to a few things that have escaped my memory till this moment.

First—Diet of patient from Sunday, 16th, to Sunday following, was simply milk, with an occasional teaspoonful or two of whisky.

Second—Complete aphonia for seven days, dating from day of operation.

Third—Hæmorrhage, while not measured, was at least twelve ounces.

Fourth—Tracheal tube removed, and cleansed of the most tenacious mucus twenty-odd times from day of operation to removal of foreign body.

Fifth—As soon as Dr. Robertson saw the grain of *corn* his face brightened up, he clapped his hands, yelled hurrah! and, wheeling with the alacrity of an acrobat, without request

or invitation, smacked right square on the lips a beautiful widow standing near, while your humble servant had to content himself with the sad regret that there wasn't one of the *same sort* on his side of the crib.

Sixth—The prevailing opinion that tracheotomy, either for the removal of foreign bodies, or for idiopathic affections of the respiratory organs, is scarcely ever performed in the small towns, is not now applicable to our community, for Dr. R. himself has operated successfully eight times for the removal of grains of corn and watermelon seeds.

On the 26th of September, 1876, I was present and assisted him in the removal of a "watermelon seed" from the windpipe of a pretty little girl, five or six years of age, and upon this occasion especially was I deeply impressed with the efficacy of narcotizing the patient for the first steps of the operation, and in permitting he or she to regain complete consciousness before opening the trachea. If this is adhered to strictly, I fear not that any one of us will fail twice out of a dozen times to catch the game we are in search of. This is a point upon which I might touch at length, but I can not presume to monopolize your time any longer, but will be pleased to hear others express their views in regard to this subject. I feel satisfied that you will not criticise the length of this report when you reflect that few of us in the exercise of our profession experience a greater satisfaction or witness a grander triumph than this which Dr. R. and his associates have deservedly realized; and when you remember that I have spared no pains to perpetuate this noble truth—

> "That one life saved, especially if young
> And pretty, is a thing to recollect;
> Far sweeter than the greenest laurels sprung
> From the manure of human clay, though deck'd
> With all the praises ever said or sung."

ART. III.—*Apollinaris Water.*

"*Quod ab omnibus, quod ubique*" is always admitted to be one of the strongest arguments that can be adduced. It is that on which rests almost exclusively the use of all those beverages, such as tea, coffee, cocoa and mate, which the universal

instinct of mankind has singled out for daily use, and it has been reserved for the chemistry of quite modern days to learn with surprise that in selecting the berries of a tree of one species, the leaves of another, and the pods of a third, widely separated in appearance, in botanical class, and in countries of growth, the uneducated instinct of populations, civilized and uncivilized, has pitched upon the vegetable products, which, however dissimilar in origin, appearance, mode of treatment and flavor, contain identically the same active principles. It is now known that coffee, tea, cocoa and paraguay tea alike contain the active alkaloid known under various names as thein, caffein, matine, &c., but all identical in chemical composition. The same argument applies itself at once to the Apollinaris water, which within a comparatively short space of time has sprung into the foremost place in favor of the populations of Europe and America, and has been received with equal favor in London, Paris, New York, Singapore and Calcutta. On its first advent here, little more than twelve months ago, it was critically examined by the leading physicians of New York; and while Dr. Doremus attested its absolute purity and consequent superiority over the ordinary water supply of great cities, as well as many artificially aerated waters, and urged its use from the mere prophylactic point of view of it as a preventive of the zymotic diseases—others of specially high medical reputation—such as Profs. Austin Flint, James R. Wood, Peaselee, Sayre and Marion Sims—recommended it for use, not only as a luxury, but as a necessity, and pointed out each in his own various way the advantages which so agreeable and pure an effervescent alkaline water possesses in counteracting acidity of the stomach and indigestion, calculus and rheumatism, which are so prominent among the evils of our civilization. The popularity which this primeval champagne soon acquired spread its use very extensively through the favored classes of society, and it is not surprising that very determined efforts were made by trade opponents to undermine its credit. Accordingly, not long since advertisements were issued in such interests, boldly declaring that the Apollinaris water sold in this country is not

the water of the Apollinaris Brunnen, and that its sparkling effervescence is no natural character of the water, but the result of aeration by artificial gas. These statements the Apollinaris Company has lost no time in meeting, by inviting the most eminent chemists who could be found in all Europe to visit the springs, in order to examine the natural Apollinaris water as it exists in the depths of the spring, and to minutely inspect all the working details of the bottling, thus comparing the results of the experience so required with the result of their examination of Apollinaris water as every where sold. This mission was undertaken by the greatest authorities of Germany and England, viz., Prof. Hoffman and Prof. Kekule, the two most illustrious names in chemical science of which Germany can boast in the present century, and Prof. Franklin and Prof. Odling, who occupy unquestioned the first place in science in universities of England, and are at the same time the official chemists of the British Government. They have each examined and reported on the facts, and their printed reports lie before us; the translations of German documents being authenticated by the American Consul. They have, of course, pursued their task in the most complete manner. Thus they have cut the tubes which convey the water for bottling; they have drawn water from the spring at a point fifty feet below the surface, at which it is taken for bottling; they have examined the whole process employed in filling from 40,000 to 80,000 bottles a day at the spring, and they have examined the Apollinaris water of commerce. Their testimony is unanimous that the Apollinaris water of commerce is that of the Apollinaris spring, and none other; solely also to its being bottled with the natural gas contained that the effervescence of the Apollinaris water bottled is due in the water in one spring, and that the quantity is identical with that which exists in the spring at the depth from which the water is drawn. Moreover, the Treasury Department at Washington, as custodians of the revenue, took alarm at the statements published, and instituted investigations by confidential agents, whom they dispatched to the spot to ascertain whether or not any artificial aerated water was manufactured

at the Apollinaris Brunnen, or whether any artificial product was bottled under the name of Apollinaris water. The reports received are once more entirely confirmatory of the integrity with which all the bottling operations are conducted, and refute in the most positive manner the charges that have been made. They entirely confirm the reports of Liebreich, Mohr, Hoffman, Kekule, Odling and Frankland, that the Apollinaris natural mineral water owes its charms and merits to nature only.—*Apollinaris Co.*

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I. *M. Pasteur on the Observation of Plague.*

The discussion on the observation of plague which occurred in the French Academy of Medicine, on the 4th ultimo, was of considerable interest—an interest chiefly due to the fact that M. Pasteur took part in it. The discussion arose on a paper which had been read at the previous meeting by M. Fauvel on the recent outbreak of plague in Astrakhan, and it was opened by M. Marey. He was desirous to ascertain what instructions had been given to the different medical delegates who were then hastening from various European countries to the seat of the outbreak. Nowadays, he said, these epidemic maladies had to be approached from a new standpoint. Miasm has become embodied, and M. Bouillaud lately expressed his admiration of those modern researches which assigned to bacteria and vibrions so important a part in the development of transmissible maladies. All are not yet of accord on this subject, yet those who accept the germ theory stand on better ground in respect to possibilities of prevention of epidemic diseases than those who have recourse for their explanation to something undefinable—to a *quid divinum.* Appealing to MM. Pasteur, Devaine and Bouley, M. Marey expressed the opinion that they would find no difficulty in formulating a programme for the methodic study, not only of plague, but of epidemics generally, and a series of hygienic and prophylactic prescriptions with regard to them. M. Zu-

ber, who has been dispatched by France to the seat of plague in Russia, would no doubt be glad to receive the counsels of competent men on the subject of his difficult work. M. Bouillaud followed M. Marey and repeated what he had previously said before the Academy of Sciences, that with regard to the questions of the nature and contagion of plague, as of other maladies, the recent researches of M. Pasteur had profoundly changed the face of things. Approving of the measures which had been taken in Russia and elsewhere to prevent the extension of the disease, he was of opinion that the occasion should not be neglected for studying, by all the means in our power, the agent of plague, its origin and its mode of communication or transmission. How shall we proceed with any hope of success, he asked, to a determination of the prophylactic and curative measures to be taken against a pestilence of which we do not know either the origin or the nature, or, if I may say so, the place of birth, or the body, or the principle of action? He would also appeal to M. Pasteur for knowledge of the programme of research he would trace had he to investigate and treat an outbreak of plague. M. Fauvel, the medical adviser of the French Government in such matters, then rose and, in answer to M. Marey, stated that the French delegate to Russia had been instructed in the sense that had been suggested by that gentleman. He added that it seemed to him to be the more needful to proceed to precise researches upon the origin and prophylaxis of plague, as we are in profound ignorance of the essential characters of the disease; and that except by destruction by fire, or at least the use of high degrees of heat, we do not possess trustworthy means of disinfection, or, in other words, means of destroying the morbific germs. M. Pasteur then followed and said: I had resolved never to address this Academy except when I could submit to it positive demonstrable facts. I crave pardon, then, if moved by the observations of M. Marey, I attempt to speak on a subject of which I am ignorant. My excuse is that I am one of those individuals who believe in the germ theory as relates to contagious maladies. I believe in it because, having studied several of these mala-

dies, I have obtained indisputable proof that they depend exclusively upon the presence and development of microscopic organisms. Naturally, therefore, I have certain views in regard to plague and the *desiderata* of its study, which I now venture to communicate to the Academy.

If I were called upon to study plague in a locality where the disease was present, I should assume first (because at the commencement of every investigation it is necessary to have a preconceived idea to guide us) that plague is due to the presence and development in man of a microphyte or microzoaire. Starting from this viewpoint, I should devote myself exclusively to the culture of the blood and of various humors of the body, blood or humors being taken toward the close of life or immediately after death, in the end and with the hope of isolating and purifying the infectious organism, and especially with a view of obtaining it in a medium of culture disengaged from all association whatsoever with products known or unknown, living or dead, that the most fruitful imagination could suppose to exist in its company in the fertilizing droplet of the first culture. The analysis of the air of infected places, the chemical analysis of the blood of the sick, the microscopic analysis even of the blood, avail nothing for obtaining a precise knowledge of the properties of an infectious organism. Although it would be an error not to study microscopically with the greatest attention morbid products, it is necessary not to attach too great a value to this sort of examination, because very many circumstances may give rise in the body of a plague patient, dying or dead, to microscopic organisms. They may, moreover, exist there without the microscope discovering them. Moreover, by the side of these organisms of which we know not the properties, many pathogenic products and hidden causes of death may exist. In the actual state of science, the proof that a microscopic organism is, by its development, a cause of death, can not be decisive except on condition that this organism has undergone successive cultures, indefinitely repeated in liquids themselves inert; and that these liquids invariably show the same development, the same appearance of life, associated

with the same virulence, as shown by the production of disease and death by their inoculation.

How is this virulence to be proved? It is easy when the question refers to the contagious diseases of animals. In the case of plague it would be requisite to inoculate animals of divers species, preferably monkeys.

It is necessary to undertake these difficult studies with a mind free from prejudice. They ought to be undertaken in the same methodical manner that a chemist delivers himself to the analysis of a mineral. To this end it is well to believe that the contagions and infections are neither so common nor so ready of transmission as might be imagined if their sudden and mysterious appearance were alone considered. So far as I am concerned I should proceed to the study of plague, when the disease is endemic, without fear, on condition of taking the following precautions, and even these are probably exaggerated. I would wear spectacles furnished with cotton-wool between their borders and the skin of the face; I would cover the mouth and the nose also with cotton-wool; I would re-heat myself all my food; as drink I would take solely natural mineral waters or waters collected from their sources, or which had passed through several meters' thickness of soil. Under these circumstances the purity of the water is always irreproachable, as I demonstrated several years ago in a work prepared in conjunction with M. Joubert. But any water may be used which has been subjected to a temperature of 100° to 120° C., and when cold shaken for a minute or two in contact with pure air in order to aërate it.

Here is a fact which confirms what I say of the slight danger which attaches to the study, even assiduously, of contagious and infectious maladies. For about three years anthrax and septicæmia have been often studied in my laboratory. Not only have no accidents occurred to the persons engaged in the studies, but there has not been a single spontaneous death among the animals used for experiment. They are all kept more or less together in the same place, each in a special cage, it own residence so to speak. Not a single hare, or guinea pig, or sheep, or even fowl has been infected by a

neighbor of the same or of a different species. For several months a third infectious malady has been studied in the same laboratory. This malady is described in veterinary medicine as the "epizootic of the poultry-yard" (*malade epizootique des basses cours*), and sometimes "fowl-cholera" (*cholera des poules*). It is a terrible malady in its effects—contagious and infectious—capable of destroying in a few days the poultry of a farm. Thanks to M. Toussaint, the very able professor of the veterinary school of Toulouse, who sent to me in the month of December some blood of a young cock which had died of this disease, and in which he had distinguished a microscopic organism that he found also in all the animals he had inoculated with it, I have been able, aided by M. Chamberland and a young physician, M. Roux, to extract and cultivate in a state of purity the microscopic organism, the cause of the disease, and to demonstrate by the method of successive cultures, to which I have referred, that this organism, by its facile development in the body of animals of the poultry-yard, is the sole and indisputable cause of the malady. The fowls used for the experiment are placed in cages above each other, but an instance of spontaneous infection has never happened. Nevertheless nothing would be easier than to bring about mortality from this source. You have recently heard M. Davaine relate that in a place where many animals were brought together, some septic and some not, instances of infection occurred.

The three maladies of which I speak, anthrax (*charbon*), putridity of blood (*septicæmia*) and fowl-cholera, exist in the state of germs bottled in my laboratory. At will, during the last two years for the two first, and for several months for the third, these germs, always ready, can be poured out for new inoculations and new deaths.

Suppose for a moment that these germs were transported to a village on the right bank of the Volga, into the midst of crowded populations and unwholsome dwellings, such as M. Fauvel described to us on Tuesday last, and that by a puncture or otherwise these diseases should explode, do you imagine that matters would proceed as in my laboratory? No.

A first patient would communicate the disease to his neighbors or his relatives, and you would presently witness all the effects and all the terror of anthrax and of septicæmia among men or among animals, and an epidemic of animals of the poultry-yard. There are no epidemic media [*milieux epidemiques*=epidemic constitutions]. That which to me corresponds to this term—as I have proved demonstratively for the pébrine of silkworms—is a greater or less abundance of the germs of the disease. As regards prophylaxis, a knowledge of the properties of infectious microbia suggests more or less easily preventive means.

M. Pasteur terminated his observations by referring to a question of arresting the mortality among the poultry in a farm-yard then under his consideration, but without going into details of the means he would recommend either for fowl-cholera, or anthrax, or septicæmia, to both of which latter maladies he also referred in this connection.

M. Jules Rochard followed M. Pasteur, and pointed out that the sort of inquiries as to plague suggested by the last-named gentleman would be difficult of pursuit, if not impossible, under the conditions in which plague had to be studied on the Volga; and that of necessity almost all our studies there must be clinical and pathological, such as could be compassed by the aid of a thermometer, a microscope, and a box of reagents which may be carried about by the physician. As to the general precautions suggested by M. Pasteur, he condemned them as utterly inconsistent with the sort of work required from the physician, and as much out of place and as needless in plague as they would be in typhus, in small-pox, and in yellow fever.—*The Practitioner.*

ART. II. *Vaccination the Greatest Mistake and Delusion in the Science of Medicine.*

There is steadily arising in this country a rebellion against the compulsory vaccination law, which is not unlikely to seriously involve the general faith in Jenner's discovery. By prosecutions and punishments of some respectable and intel-

ligent families the authorities have been the means of constituting an anti-vaccination society, with two newspapers (*Inquirer* and *Anti-Vaccinator*), and the country is flooded with facts resting on high authority which can not fail presently to produce a panic. Peter Taylor, M. P., who was one of the Parliamentary Commission which nine years ago considered the subject and signed the unanimous report in favor of compulsory vaccination, has been convinced that he was in error, and on a bill just brought in by the government to extend compulsion to Ireland, made a statement which convinced others of the impolicy of the law—notably Professor Fawcett. John Bright has already opposed compulsion, and Gladstone has expressed himself as suspicious of the law. Since Mr. Taylor made his speech on the subject, I have had an opportunity of conversing with him. He informed me that the bill will be strenuously fought on going into committee, and he was good enough to let me freely examine the facts and evidences on which he means to resist the new bill and urge repeal of that existing. It is hardly possible that such facts as the subjoined, selected from a larger mass, can fail to excite alarm:

Dr. W. J. Collins, for twelve years vaccine physician in Edinburg and London, writes: "If I had the desire to describe one-third of the victims ruined by vaccination, the blood would stand still in your veins." Dr. Stowell, with still longer experience, declares vaccination "not only an illusion, but a curse to humanity." Dr. Hitchman, of Liverpool, says: "I have seen hundreds of children killed by vaccination." The *Medical Times and Gazette* declares that "consumption has widely spread since the introduction of vaccination." The physician of the great London Cancer Hospital declares that many of the cases of cancer which have come under treatment in that institution have originated with vaccination. Dr. Ricord, a distinguished French surgeon, says: "At first I repelled the idea that syphilis could be transmitted by vaccination. The appearance of facts appearing more and more confirmative, I accepted the possibility of this mode of transmission—I ought to say with reserve, even with re-

pugnance. But to-day I hesitate no more to proclaim this reality." Dr. Hutchinson has testified before a Parliamentary Commission that out of thirteen children whom he vaccinated with lymph from a public vaccination institution, eleven exhibited the primary sore of syphilitic contagion two months after. Dr. Brudenell Carter declares that "a large proportion of the cases of apparently inherited syphilis are in reality vaccinal," and that "the syphilis in these cases does not show itself until the age of from eight to ten years." Dr. Thomas Wilson, officer of health to the Akton Union, writes to the *Lancet* (and it is significant that so conservative an organ should have printed his communication): "It is useless to deny that vaccination by human lymph involves danger of scrofulous, syphilitic and erysipelatous inoculation." Dr. Edward Ballard, Medical Inspector of the Local Government Board, one of the most important medical offices in the country, wrote a pamphlet of the utmost importance on vaccination. The government, when appointing him, may not have known of this pamphlet, and since he was made inspector his essay has suddenly disappeared from all book-shops. Diligent search for a copy failed to find one except in the British Museum. Speaking of some case at Acqui, Italy, Dr. Ballard says: "Put the cases how we will, we can not escape the inference that the child Chiabera had become constitutionally syphilitic at the time when his vaccination was performed. Forty-six other children were vaccinated from him. Of these thirty-nine became affected with syphilis. Among these thirty-nine was Louisa Manzone; from her seventeen other children were vaccinated, of whom seven became syphilitic. She died; the nurse who suckled her got ulcers in the breast, and from the various other children who were syphilized the disease spread by contagion to eighteen mothers and nurses and to their other children." In October, 1856, M. Marone got some lymph in the tubes from Campobasso. A large number were vaccinated, of whom twenty-three, whose parents were known to be healthy, were infected with syphilis. "The nurses," says Dr. Ballard, "were infected in their turn with indurated chancres on the breast.

* * * The mothers imparted the disease to the fathers. One of the twenty-three infected served for new vaccination; eleven infants were contaminated, and they infected others. Several of the children died. Eleven nurses infected by the vaccinated children infected in their turn other children which had not been vaccinated. Several of the contaminated women were confined either prematurely or at full term, of children dead or living, but in every case bearing marks of congenital syphilis." Dr. Ballard further says that a latent syphilitic taint may be roused into activity by vaccination. The effort to suppress this pamphlet will be in vain. When the bill to extend compulsory vaccination to Ireland is fought, the government will have to meet these statements, made by one of its chief medical officers.

One of the most remarkable facts is that since vaccination was made compulsory, the death-rate by small-pox in London has increased; in 1849–53, before compulsion, and when only ten per cent. were vaccinated, the death-rate from small-pox was 292; but since compulsion, 1869–73, the death-rate from this disease was 679. Since the agitation began, the support which it has received from eminent authorities abroad has been remarkable. Dr. Josef Hermann, head physician of the Imperial Hospital, Vienna, writes:

"My experience of small-pox during these six years of bedside attendance has given me the right, or rather has imposed on me the duty, of taking part in the bold and spirited onslaught on vaccination, which is now being carried on in Switzerland, Germany, England and other countries. * * I am convinced that vaccination is the greatest mistake and delusion in the science of medicine; a fanciful illusion in the mind of the discoverer: a phenomenal apparition, devoid of scientific foundation, and wanting in all the conditions of scientific possibility."

At Leeds a surgeon named Corrie certified that a child had died from vaccination. The coroner refused to accept the certificate, saying, "Vaccination is not a legal cause of death." He therefore ordered the jury to return a verdict of "Died by visitation of God." But illegal and improper as it may be for a baby to die of vaccination, the cases are now so numerous that the false returns which have been made so as not to alarm parents are no longer possible. And this espec-

ially as it is conceded that vaccination does not entirely protect.

Between 1870 and 1878 the number of small-pox patients in the great hospitals of Liverpool, Glasgow, Homerton, Dublin and Metropolitan (London) aggregated 22,465; of these the number that had been vaccinated was 17,056. These figures are startling enough if read beside the life of Jenner. According to the statements of Jenner, and of many medical authorities in his time, persons who had been vaccinated were again and again inoculated with the small-pox and without any effect whatever. These experiments led to the belief that vaccination was a preventive. That has been proved a fiction and the plea for compulsion now is that vaccinated suffer more lightly when attacked. But since this medical tenet follows an ancient orthodoxy of inoculation (now penal) and a modern orthodoxy of complete immunity, no new theory has any right to claim infallibility. This latest theory appears also to be mistaken. The London death-rate has increased since compulsion. But even if it were otherwise, the policy of coercion can not be sustained in the absence of any possible security (the matter being unanalyzable) from the accompanying perils. But it is an interesting question—even a puzzle—how Jenner's reports can be made consistent with contemporary facts.—*M. D. Conway in Cincinnati Commercial.*

ART. III. *Charcot's Experiments in Metallo-Therapeutics.*

The most wonderful of the phenomena in these cases was that by the application of certain metals or a large horseshoe magnet to the side that was deprived of sensation, this abnormal condition would change from the side to which the metal was applied to the one that had been before entirely normal. In one of these patients, who was anæsthetic on her left side, Professor Charcot applied a twenty-franc gold piece to the outer aspect of the left arm, and after the expiration of three minutes it was found that a small circle around the gold coin had regained its sensibility, while at the same time a corresponding surface on the right arm had lost all sensation.

At the end of ten minutes the patient was completely anæsthetic on her right side, and had regained sensibility on her left.

Professor Charcot said that some persons were susceptible to one metal and some to another, and brought forward the second patient in whom he produced exactly the same phenomena as in the first, by using a copper plate instead of a gold coin. He also stated that in all these cases there existed an ovarian tenderness on the side that was anæsthetic.

But the practical part of this matter as claimed by both Dr. Burge and Prof. Charcot is, that the metal to which the patient is susceptible—or in other words, that which will change the anæsthetic condition from one side to the other—is the remedy that is indicated in the treatment of each particular case.

To the patient who was sensible to gold, he was giving daily .02 grammes of the chloride of gold and sodium.

To the patient who was sensible to copper, he was giving .3 grammes of the hydrated binoxide of copper three times in a day. Through last year Professor Charcot said he had not used these remedies sufficiently long to test their efficacy; this year in his public lectures he declares that the medicines have been in each case highly beneficial in lessening the frequency of the attacks, and improving the general condition of the patients. Still, he did not admit that in any instance he had been able to effect a complete cure.

Although the principles involved were the same as in the experiments I had seen Prof. Charcot perform in private, in his public lectures he greatly extended them, and brought forward a number of new cases to illustrate his subject.

In one case the entire throat was so entirely anæsthetic that the doctor could irritate the epiglottis with his finger without producing the slightest reflex phenomenon.

A copper plate, 3x5 centimeters, was tried over the front of this patient's throat for seven minutes, at the end of which time she was so sensitive that any attempt at passing the finger into the pharynx brought on violent attempts at vomiting. The hystero-epileptic patients who were hemi-anæsthetic had

many of them another remarkable symptom, and that was complete color-blindness on the side that was insensible.

In the case of a girl eighteen years of age who was anæsthetic on her right side, the left eye was closed, and red, blue, green and orange-colored cards that were passed before the right eye were all pronounced by the patient as white.

The copper plate that had been bound on to the throat of the previous patient was bound on to the right temple of this one, and in five minutes she could accurately discern colors with her right eye, but was as completely color-blind in her left as she had previously been in her right. The migration of sensibility and sense that these persons experienced upon the application of the metals was in every instance only temporary in character, as, after the expiration of a variable period of time, say from ten to thirty minutes, the old condition of hemi-anæsthesia was found to exist on the side at first affected.

During his second lecture Prof. Charcot brought on to the platform two patients, whom I recognized at once as those upon whom I had seen him experiment in 1877. They were seated in chairs near each other, and an immense tuning fork placed between them. This instrument was then struck, and when it began to sound, both girls with perfect accord fell into a cataleptic condition. Their eyes, widely opened, seemed to gaze with a vacant stare at some far-off object. Their hands, arms, and other parts of their bodies could be placed in any given attitude, and would thus remain for an indefinite period of time. They could be aroused from this condition by suddenly blowing into their faces or pressing upon the ovary that was sensitive.

There is in most of them an epileptogenic zone, which may be situated in any part of the body, and which, being pressed upon, or in any way irritated, will throw the patient at once into a violent series of convulsions.

Prof. Charcot, just before the close of one of his lectures, showed a person in whom he said this sensitive zone was at the last cervical vertebra.

As the girl stood in the hall through which the students

passed as they went from the lecture-room, one of them took occasion to verify Prof. Charcot's assertion by suddenly pressing his finger on this point of her spine. The poor creature fell down as suddenly as if shot on the stone floor, and went into convulsions of as violent a character as I ever saw.

Dr. Oulmont, Prof. Charcot's interne, soon made his appearance, and coming down with the whole weight of his body upon the right ovary of the patient with his closed hand, he was soon able to arrest the paroxyms.

Prof. Charcot closed this lecture by showing us, by means of a magic lantern, copies of paintings of the old masters, representing persons as being possessed of the devil, and priests casting them out, in whom the attidudes and expressions of the persons represented were an exact counterpart of some phase or stage in the hysterical attacks of the patients he had shown us.

What is thought of Prof. Charcot and his teachings.—A vast majority of those who listen to Prof. Charcot at La Salpétriére have such an implicit faith in the integrity and wisdom of the man, that they believe that he could not be deceived by the patients upon whom he operates, and would present nothing to his hearers in which he himself had not the most unbounded faith.

The great Claude Bernard evidently believed these phenomena to be genuine, for, after witnessing them just before his death, he was perfectly astounded at their manifestations and exclaimed, "These facts show us how little we know."

Although this represents the sentiments of that portion of the profession who are thrown in immediate contact with Prof. Charcot, it is far from being generally adopted outside of Paris and France.

Here, in Berlin, the first evening that I went to hear Prof. Westphal, he brought out for the subject of his lecture an hystero-epileptic patient.

The patient was fifty-three years of age, and was what Prof. Westphal designated as a true type of hystero-epilepsy which has been of twenty-five years' duration. She was nearly idiotic, thus showing that the disease does effect the intellect.

He claimed that the nice points in the diagnosis of this disease, as given by Prof. Charcot, could not always be recognized in practice.

A case like this might be one of genuine epilepsy affecting a person of hysterical temperament, in which one could not always decide as to where, in any given attack, the hysterical element ends, and the epileptic begins.

He went on to refute the generalized statement that one could arrest the paroxysms by pressure upon the ovaries, so that ovarian tenderness was a prominent symptom attending them.

He said that he and Prof. Schröder had experimented upon a number of cases by making direct pressure upon the ovaries by combined manipulation through the vaginal and abdominal walls, and had found that the ovaries were not generally in the least sensitive. Besides, he was of the opinion that Prof. Charcot, with his modes of manipulating, did not in one case out of five touch the ovary.

Furthermore, in the single case of a male patient, whom he had had under observation and who had all the symptoms of genuine hystero-epilepsy, he was able to arrest the paroxysms as effectually by firm pressure into one of the iliac fossæ as Dr. Charcot had been able to do in his cases, where he had supposed he was pressing upon a sensitive ovary.

He believes that the arrest of the convulsive attacks in these cases is due to a general reflex action produced by pressure upon the pelvic nerves.

After this lecture, I had a private interview with Prof. Westphal, and he, knowing that I had just come from Paris, began at once to question me as to what I had seen of Prof. Charcot's doings at La Salpétriére. Finding him skeptical as to the genuineness of the entire phenomena of metallo-therapeutics, I asked him his explanation of Prof. Charcot's experiments.

He told me then promptly that, much as he had formerly admired the great French physiologist in this matter, Prof. Charcot was playing the part of a mountebank and juggler. I then asked him what object a man of his standing could

have for taking such a course. "Money! money!" was his reply. At this juncture we were interrupted, or I should have interrogated Prof. Westphal farther; for, to me, it is inconceivable that a man of Prof. Charcot's standing should take the course in this matter that he does, unless he firmly believes in what he teaches; beside, I can not see how he can make money from his demonstrations and lectures, as all of them are free.

As bearing upon this subject, and giving in my view the best explanation, I will close this article by giving the following history of a case as published by Dr. Hughes Bennett, in a late number of the *British Medical Journal:*

"There are always those who, either from an involuntary bias of mind, or from a natural credulity in what appears marvelous, seem to think that what is difficult of explanation must of necessity be true. Thus does the spiritualist and the electro-biologist pledge his faith to what his reason can not comprehend, and what he perhaps honestly believes to be genuine.

"As well might one credit the reality of the tricks of a conjurer, because it baffles all our efforts to appreciate the steps by which he deceives us.

"In all these hypotheses, the more we eliminate sources of error, the more that unprejudiced observers investigate the subject, and the more that stringent tests are applied, the more easy and simple do we find these 'inexplicable phenomena' become.

"It may be that metallo-therapy, the most recent of the doctrines which have flattered the psychological world, is doomed to an early grave, to be resurrected in the future in some other novel and more attractive form."—*W. S. Caldwell, in Chicago Med. Jour. and Examiner.*

THE report of an Irish benevolent society says: "Notwithstanding the large amount paid for medicine and medical attendance, very few deaths occurred during the year."—*Monthly Review of Medicine and Pharmacy.*

ABSTRACT DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."

CONDUCTED BY EDWARD MILLER, M. D., LOUISVILLE, KY.

ON SOME OF THE SURGICAL USES OF THE ACTUAL CAUTERY. By ALFRED C. POST, M. D., LL. D.—The actual cautery, in appropriate cases and with proper precautions, is a remedy of great value as a means of relieving severe and protracted suffering, of arresting the progress of disease, of preventing extensive disorganization of important parts, and of averting fatal results of morbid actions. The term actual cautery includes any form in which heat is applied to the body, so as to produce more or less irritation, and a greater or less degree of disorganization of tissue. It may be the solar rays concentrated by a lens, a metallic or other body heated by fire, or the electric current, a flame directed by the blow-pipe, or a combustible body ignited upon the part. The action of the heat may simply redden the part, or occasion vesication or disorganize the skin and other tissues more or less deeply. The different forms and degrees of action of the actual cautery are applicable to the treatment of a variety of morbid conditions. (1) As a hæmostatic. Before the introduction of the ligature the cautery was more used for arresting arterial hæmorrhage than it is at the present time. There are situations, as in the fauces, the vagina and the rectum, as well as in deep and extensive incisions, where the ligature can not be applied, and the actual cautery may be used as a substitute with great advantage. The hæmorrhage should of course be temporarily arrested, if possible, as the application of the cautery in a puddle of blood is a very unreliable remedy. The cautery is heated to a dull, red heat, and the application to the bleeding surface should not be prolonged. The simple cauterizing iron may be used with entire satisfaction in most regions of the body. But in the fauces, the vagina or the rectum, there is an advantage in the use of the galvanic or benzine cautery, as either may be used with more deliberation and precision. (2) The actual cautery is employed in

the treatment of vascular tumors, with the intention of constringing the vessels, of coagulating the blood, and of exciting plastic exudations, by which the whole of the affected tissue is solidified and its vascularity diminished. In the treatment of superficial telangiectases, the solar rays, concentrated by a lens, will accomplish the object speedily, without any breach of the surface or the formation of a scar. More commonly blunt cauterizing needles, heated to a dull red, are made to penetrate the morbid growth at a number of points. When the skin is not involved, it may be dissected from a portion of the surface of the tumor, and a small globular cautery made to penetrate the morbid growth, thus avoiding a disfiguring cicatrix. (3) The galvanic cautery is employed for the removal of morbid growths, situated in narrow and deep cavities. Too high a degree of heat should not be used nor the tissues penetrated too rapidly, as there would thereby be danger of hæmorrhage. (4) The interior of a morbid growth distending the vagina, may be destroyed by repeatedly plunging into it a heated cautery, thus reducing its bulk and making it possible to extract it through the vulva. (5) The actual cautery is a remedy of great value in the treatment of severe and obstinate articular inflammation. A globular cauterizing iron, heated to a white heat, is applied, so as to penetrate the skin into the subjacent connective tissue, the patient being in a state of anæsthesia. Ice-water dressings are then used for a few hours, and subsequently the ointment of balsam of Peru. (6) In cases of paralyzed limbs of peripheric origin, where there is no morbid condition of the nervous centers, the actual cautery in the form of the moxa is an efficient means of restoring motion. (7) Dr. Post has employed the actual cautery with great satisfaction in the treatment of a number of cases of severe, protracted and obstinate neuralgia. (8) Dr. Post has employed the actual cautery, applied above the pubes, for the relief of cystitis, with a degree of success which seems to him to warrant further trials of the remedy in obstinate cases of that very distressing disease. (9) For the radical cure of varicose veins. Although in the majority of cases, the palliative treatment by methodical pres-

sure is to be preferred, nevertheless there are cases in which obliteration of the diseased veins affords the only chance of placing the patient in a position to engage in the active pursuits of life. In one such case Dr. Post applied cauterizing needles at a large number of points along the course of the varicose saphena vein and its branches. The local inflammation afterward was very slight. A radical cure was promptly effected.—*The Medical Record.*

Treatment of Whooping-cough by Atropia. By Arthur Wiglesworth, L. R. C. P., M. R. C. S., &c.—Nearly every year some new remedy is vaunted as a specific for whooping-cough, has a brief life of notoriety, and then passes into oblivion. We find that "neurotics" have the largest number of advocates and live the longest lives. This is to be expected when we remember that the disease is essentially a "neurosis;" yet having said this, we have said nearly all we can concerning its etiology. We know not how it originates or is propagated, nor the causes of its ofttimes erratic career. It is the most uncertain of all infectious diseases. Beginning mildly, it will terminate in death; commencing with severity, it will suddenly become benign; and when to all appearance its course has ended, it suddenly re-appears after an interval of weeks or months. Its very advent is uncertain; sometimes preceded by severe catarrh, yet often the characteristic "whoop" being the first circumstance to arouse attention. No wonder then that a host of remedies have been tried, and with varying success. No remedy can be called a "specific" unless, under the various aspects the disease presents, certain definite curative results follow its administration—results so certain that they can be safely predicted—results that the most unlearned can not fail to perceive. Dr. Wiglesworth does not advance such a claim for atropia; nevertheless he feels constrained to say that it approaches nearer to that position than any remedy he has either used himself or seen administered by others. So far its employment has resulted in an unexpected and unequivocal success. He was led to use atropia from reading Trousseau's remarks concerning the

ofttimes beneficial effects of belladonna. He prefers the alkaloid to the other preparations of belladonna, because of its unvarying strength; because the dose could be more easily regulated, and because it is nearly tasteless. The solution of the sulphate of atropia (B. P.), which contains 1-120th of a grain in each minim is the formulæ employed, and it is to be taken in the morning fasting. The dose to begin with is the 1-120th of a grain (or one minim in a fluidrachm of water) in children from one to four years of age, either increasing or diminishing the dose as occasion dictates, and except in very severe cases, only order it to be given once a day; but when the nightly paroxysms are very severe, half the dose is to be repeated an hour before bedtime. The results that follow its administration may be summed up thus: (1) There is a steady diminution in the number of paroxysms. (2) There is a diminution in the duration of the paroxysms. (3) There is a change in the character of the "whoop," as if the vocal cords were not so closely approximated. Further, if the atropia is withheld, the beneficial effects derived from it subside. The effects vary with the susceptibility of the patient to the action of atropia. Where thirst is a prominent symptom, it subsides upon a diminution of the dose. If the "falling down" sensation is experienced, that also disappears where the dose is diminished. It is by its action upon the pneumogastric and sympathetic nerves, and also upon the medulla oblongata, that atropia relieves and ultimately cures the neurosis called whooping-cough.—*The Lancet.*

Pelvic Peritonitis and Cellulitis. By Wm. Goodell, M. D.—These conditions may follow any gynæcological operation. Dr. Thomas and others of high repute are in the habit of dividing this disease into two distinct diseases—pelvic peritonitis and pelvic cellulitis—but Dr. Goodell prefers to consider them together, because it is impossible to draw a sharp line of division between the two, and because they rarely exist apart from each other, on account of their intimate anatomical relations. This disease sometimes occurs as a result of labor or miscarriage, and is especially frequent after

criminal abortion. Occasionally it follows direct violence to the parts, or from septicæmia. The disease usually begins with a rapid rise in temperature, chills and agonizing pelvic pain. Generally the attack is slight and easily subdued, but in more serious cases there will be marked night sweats, meteorism, dysuria, &c. The pain is due to inflammation and plasma thrown out. The chill is the result of the shock to the nervous system, while the dysuria is caused by an exudation in the neighborhood of the neck of the bladder. The attack may not begin with a chill. The first symptom may be the local pain. Indeed, in some cases—cases of insidious peritonitis—there is no pain, nor chill, nor fever. The womb, in its natural position, floats like a ship at anchor, but the plasma thrown out in this disease changes the broad ligament into a board-like consistency, and securely fixes the womb. Sometimes the intestines are agglutinated together in the neighborhood of the womb, and feel like a tumor. The vagina is hot and dry, while the cervix of the womb is immovable and tender to the touch. The roof of the vagina is hard, and feels in fact as if plaster of Paris had been allowed to harden round the womb. It is easy to mistake the hard body above the vagina for an uterine fibroid, but more careful examination will show that the hardness is thin and not like that of a thick, large tumor. If the womb is fixed, pelvic peritonitis and cellulitis may with propriety be suspected. If the attack can not be aborted, the two most important indications of treatment are to stop the pain and to prevent the formation of pus. The medicines demanded are full doses of opium and bromide of potassium together, with thirty to forty grains of quinine daily. In addition, the abdomen should be painted with iodine and a large poultice put on and covered with oiled silk. The disease ends either by resolution or in the secretion of pus. When pus is formed the tumor becomes softer, and there are chills, night sweats and hectic fever. In nine out of ten cases resolution occurs. When pus forms the condition is troublesome. In this condition iron must be given, and the poultices omitted. If the pus is not removed by absorption, the vagina must be exam-

ined to find the spot where it points. The most common site for the pointing of pus in pelvic peritonitis and cellulitis is the vagina; the next most common site is the rectum. Occasionally it empties into the bladder. The vagina is the most desirable place. An opening must be made, and the pus drained off. The cavity of the abscess is to be washed out with a two or five per cent. solution of carbolic acid. If the result of the active inflammation be a hard tumor instead of an abscess, the inflammatory process may be re-lighted at every menstrual period. Therefore resolution should be brought about in these cases as soon as possible. If the case becomes chronic the woman is likely to be sterile from false membranes thrown out over the oviducts. When pus forms the destruction of tissue is usually very great.—*The Hospital Gazette.*

Syme's Amputation at the Ankle-joint for Club-foot in the Adult. By Stephen Smith, M. D.—There is a certain class of distortions of the foot in the adult, which are amenable to no other treatment than amputation. The most persevering efforts fail to bring the foot into position, and even if these efforts are partially successful, the feet remain dwarfed and atrophied, and quite unfit for the purposes of progression. The question then arises what are the advantages of amputation, and will the advantages compensate the risks? A full and explicit answer to the first question serves also as an answer to the second. Dr. Smith says it may be safely asserted that the limb will be free from troublesome neuralgic pains; and second, that the patient can walk with an easy and natural step. A neuralgic stump never occurs after Syme's operation, and a painful and tender cicatrix will not exist if proper care to secure perfect cicatrization is taken. A person with a properly constructed artificial foot may run, leap and dance with as much freedom as on the natural foot, and some have worn them for years without their most intimate associates suspecting the fact. Syme's operation is better than Chopart's; the latter is not less fatal, and the stump is less serviceable, for the reason that its face inevitably turns

downward and becomes ulcerated; and in addition, it does not admit of the adjustment of a serviceable appliance. Syme's operation is better than Pirogoff's, because it is safer and gives the more serviceable stump. It is safer, because the bone in the flap of Pirogoff is liable to caries and necrosis. It is more serviceable; the additional length of the Pirogoff stump claimed as a merit is positively injurious. The easy working of the applied foot depends largely upon the position of the ankle-joint; if it is low down there is little play of the foot, and the patient has the gait of one suffering from a broken arch of the foot or splay-foot. The ankle-joint must be as high or higher than the natural one, and this position Syme's stump provides; hence patients amputated by that method have an elastic, easy gait, closely resembling the natural.—*The Hospital Gazette.*

THE THERAPEUTIC VALUE OF REST IN THE TREATMENT OF DISEASE. By ARTHUR E. T. LONGHURST, M. D.—Professor Hilton, in his lectures and the study of mental diseases, has taught us much of the value of rest, but the practice of medicine has not yet derived its full measure of benefit from the application of that principle. Yet if we only observe and follow out natural laws and indications, we shall find much to guide us in a rational course. As Prof. Hilton so well observes, the maximum of result is co-equal with the minimum of disturbance, and rest is the great fosterer of repair. Rest must be considered in its most comprehensive sense, and we can not fail to see its importance in assisting nature, both in repelling the attacks of disease and in completing the work of repair. In affections of the brain and nervous system, no agent is so valuable as rest. In affections of the circulatory system, the heart, as it obtains no lengthened period of repose, is less amenable to treatment; but how often do we see the blood-vessels favorably influenced by certain postures in which they obtain rest, as in the recumbent treatment of aneurism of the aorta, and in the complete rest given to the sac by the ligature of the smaller vessels. In the affections of the respiratory system the benefits of rest are shown in the

use of nervous sedatives in irritable states of the respiratory tract. The advantages are not less marked in affections of the digestive and urinary systems. In acute inflammations of the serous membranes, how important an agent is rest. Rest in its most comprehensive sense includes: (1) Mental rest. (2) Bodily rest. (3) A combination of the above, as in that most perfect state of rest which we call sleep. (4) Organic rest, as evidenced in the avoidance of exertion in cardiac disease; of talking, in affections of the respiratory tract; and in limiting so far as possible the act of deglutition in affections of the alimentary tract by the substitution of enemata. (5) Local rest, as secured by change in the position of the body or limb, the use of pillows, cushions, &c. (6) Dietetic rest, by avoiding the too frequent use of food and drink. (7) Medicinal rest, in the relief of spasm by inhalations, and the not too frequent administration of medicine to the prejudice of stimulants or nutrients. By a consideration, then, of the question as to the manner in which the principles of rest above indicated may be best applied in each special case of disease, we shall no doubt conduce very materially to the relief and comfort of the sufferer, as well as to the arrest of the diseased action.—*The Lancet.*

THE CURE OF HÆMORRHOIDS BY THE HYPODERMIC SYRINGE. By EDMUND ANDREWS, A. M., M. D.—In 1871 Dr. Mitchell, a physician of Clinton, Ill., conceived the idea of curing hæmorrhoids by injecting the tumors with equal parts of carbolic acid and olive oil, by means of a hypodermic syringe. The plan became very popular, and soon had a surprising number of followers. The secret was sold from man to man, and the price and the enthusiasm rose simultaneously. "State and county rights" to practice it were vended at high rates, reaching, in one instance, the sum of $3,000. Regular physicians abandoned their practice and mortgaged their property to buy the secret, and, together with ignorant laymen, filled the West with their clamor, and whitened the sands of the Pacific shore with their hand-bills. The chief managers settled in the cities, and advertised to cure the piles without

pain and without the knife, caustic or ligature; in the spring they migrate from place to place, selling the secret, and operating on country people. A secret so extensively sold always gets out. Three years ago Dr. Andrews discovered and published it, and induced some members of the profession to try the plan. From these gentlemen, and from some of the principal itinerants themselves, Dr. Andrews has derived the information he now presents the profession. The original plan was to expose the pile, smear the anus with some ointment to prevent smarting from the dripping of the injection, and then to inject the pile with a few drops of a mixture of equal parts of carbolic acid and olive oil. The pile turns white, and in the most successful cases withers away without pain, suppuration or sloughing. Only one pile is treated at a time, and a week's interval is allowed between the operations. The method is advertised as painless, but as a matter of fact, only about one patient in four is exempt from pain. Most have a sharp, temporary smarting, and some suffer terrible agony. The majority are cured, however, without interrupting their business. Instead of olive oil, many prefer glycerine, and the strength varies from equal parts of the two ingredients to one part of acid to twenty of the solvent. Ergotine is a favorite injection, and some use the tincture of iron, some the persulphate of iron, some tannin, chromic acid, tincture of iodine, &c. Dr. Andrews has reports of 3,304 cases, in which nine deaths are reported, and 175 other accidents, such as embolism of the liver (8); hæmorrhage (10); sloughing (23); violent pain (83); failed to cure the piles (11), &c. One of the deaths was due to inflammation, followed by abscesses, erysipelas, and pyæmia. Two were attributed to injecting the prostate, one to embolism of the liver, and the remaining five are so vaguely reported that no particulars can be given, and it is even doubtful if three of the reports do not refer to the same case. The total number of deaths then would be only seven out of 3,300 cases treated, often in the most reckless and ignorant manner, and shows that the injection method is as safe as any other so far as life is concerned. Dr. Andrews does not consider that there is

any decided danger of embolism. Sloughing and suppuration and the severe pain generally follow large and concentrated injections, but not the small and diluted ones. As many of the operators were ignorant blockheads, it is not surprising that a few deaths and some minor accidents have occurred, but Dr. Andrews states it as his final conclusion that the mild itinerants of the prairies have really made a valuable contribution to scientific knowledge, and founded a permanent operation in surgery. If the following rules be observed, Dr. Andrews believes that the method will be less painful than any other, and at the same time equally safe: (1) Inject internal piles only. (2) Use the more diluted forms of the remedy first, and the stronger ones only in case these fail. (3) Treat one pile at a time, and allow from four to ten days between the operations. (4) Inject from one to four drops, smearing the surface with cosmoline to guard against dripping. Inject very slowly and keep the pipe in its place a few moments to allow the fluid to fix itself in the tissues. (5) Confine the patient to bed the first day, and return him to it subsequently if any severe symptoms occur. Prohibit any but very moderate exercise during treatment.—*The Cin. Lan. and Clin.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I. *Suicidal Bullet-wound of Skull: Recovery.* By L. COLBOURNE, M. B., Hospital Ingles, Buenos Ayres.

The following case is interesting from a psychological as well as from a surgical point of view:

B. L., aged forty, a traveling agent for a large wholesale English house, an accomplished linguist, of cultivated manners, and a German by birth and parentage, was brought into hospital on the morning of November 19, suffering from a gunshot wound in the forehead. He had been traveling in the tropics for the last six or seven years, but never suffered any of the diseases incidental to those climates. He had always been temperate, and as regular in his living as in his line of life it had

been possible. His father committed suicide. He had always been a nervous man, and lately, on account of the unfavorable state of trade in South America, had become more so. Four or five days before admission he applied to a medical man for advice on account of insomnia, and was prescribed a mixture of chloral, morphia and bromide of sodium, and advised to leave business for some days. There was nothing peculiar in his manner, except an anxiety and nervousness quite attributable to his insomnia, which had already lasted seven or eight days. After taking the sedatives mentioned, he slept and got relief.

During the afternoon of the 18th he accidentally heard mentioned a suicide in the case of a man who had been a debtor to his (B. L.'s) firm. He noted in his pocket-book the name, age, date, etc., and retired. At his hotel, the same evening, after dining as usual by himself, he wrote a letter to an acquaintance, begging him to look after his affairs, and intimating that, as his "brain was tottering, he must die, and that he had left £100 for his funeral and other expenses." At about 10:30 P. M. the report of firearms was heard in the hotel, and search made for its origin; but B. L.'s room was not searched, as a waiter stated that he had seen him lately go out and his door was left locked. It was supposed that the discharge had taken place on the roof or in the next house, and (it being a noise sufficiently common in the streets) no further notice was taken of it. At about 12:30 A. M. a similar report was heard; the night porter thought it was in the court-yard or garden, and took but little notice.

At about 9 A. M., on forcing the door, the occupant was found standing in his shirt, covered with blood, on a box in the corner of the room "gibbering." When they attempted to place him in bed he became furiously maniacal. A medical man was called in, who, after examining the wound and removing a piece of brain substance "nearly of the size of a pigeon's egg," recommended his removal to hospital. On admission, his condition was that of acute mania. In his forehead was a ragged wound about two inches and a half in length, between the eye-brows, having a direction somewhat

obliquely upward and outward, from right to left. The cavity of the wound was filled with brain substance, and a probe by its own weight glided into the wound for a distance of three inches and a half in a direction almost directly backward, but was not felt to come into contact with any foreign body. The wound was cleansed, and a light dressing of lint dipped in a one-to-sixty solution of carbolic acid applied. Over this, and covering the forehead, was placed an ice-bag. A subcutaneous injection of fifteen grains of chloral was given, and the violent delirium gave way to sleep in something less than a quarter of an hour. When he awoke about two hours later, he was rational, begging to have his bracelets and anklets removed. Toward night he became restless, and another injection of fifteen grains of chloral was given; after which he slept well.

November 20. Some portions of brain substance were coming away. Pulsation was observed at the bottom of the wound. Pulse 110; temperature 99½°. He felt much better. He could not open his eye-lids on account of great œdema and ecchymosis. There was no pain in the eyes. He was rather deaf in the right ear and felt headache, but not severely.

November 26. On opening the lids the left eye was found to be natural, but the right had paralysis of the external rectus and myosis; and, on examining with the ophthalmoscope, the vitreous body was found to be rendered opaque by a brownish-red discoloration. He had a faint perception of light in the right eye. Pulsation was still observable in the wound. Pulse 76; temperature 98.8°. The ice-bag was discontinued.

On December 8 the wound was nearly completely closed; he suffered from slight headache, but otherwise felt well.

The case ran a perfectly satisfactory course, with the exception of the affection of the right eye, which remained *in statu quo.* The wound healed completely; and the individual, after transacting a considerable amount of business, against which he was strongly cautioned, returned to England in January, 1879, apparently in full possession of his faculties, and

with a bullet undoubtedly lying in his brain. The weapon used was a Colt's deringer pistol; the diameter of the bullet one *centimeter*, or rather more than three-eights of an inch. The first report heard was evidently that of an unsuccessful attempt to destroy life, the bullet having merely inflicted a lacerated wound of the soft tissue, and glanced off to the wall, where it was found imbedded in the plaster. After this attempt the determination and capability for combined actions of the would-be suicide were evident; for he must have opened the breech of the pistol, extracted the empty cartridge, opened a small cabinet where the cartridges were kept, re-loaded and re-discharged the weapon at the same point in his forehead as before; this time, however, the bullet penetrating into and remaining in the brain substance.—*British Medical Record.*

ART. II. *A case of Empyæma Following a Gun-shot Wound of the Chest, Successfully Treated by Drainage, and Exsection of a Portion of Rib.* By N. P. DANDRIDGE, M. D.*

The case whose history I give below entered the Cincinnati Hospital while I had temporary charge of the surgical wards during the absence of Dr. Mussey. On his return, through his courtesy, I was allowed to conduct the entire operative treatment in the case. The same privilege was accorded by Dr. P. S. Conner, who succeeded Dr. Mussey in charge of the ward. The patient was continuously under my care for over six months in the hospital, and continued so on his return home.

Fred. Gestner, age twenty-two; Kentuckian by birth; ice slinger; single. Entered G ward of the Cincinnati Hospital July 29, 1878, for a gun-shot wound of the chest, which he had received that day in a fight with a policeman.

The wound of entrance was over the eighth rib, three inches outside of the nipple line on the left side. On admission he was in a state of collapse; pulse 100 and feeble; respiration 36; temperature 97.5°. Fine moist rales were heard in the chest about the wound, and he complained of pain in

* Read before the Cincinnati Medical Society, March 18, 1879.

his shoulder, and of inability to draw along breath. Over the eleventh and twelfth dorsal spine an incision about two inches long was found. An attempt had here been made to find the ball, which was unsuccessful. No evidence of the ball could be found at this spot after admission to the hospital.

The man was of average height and size, very well developed and nourished; brown hair and eyes, light mustache, fair complexion, tongue normal, appetite good, bowels regular. Some slight oozing escaped from the wound.

Morphia was administered both by the mouth and hypodermically, and cold milk ordered to allay thirst. He was ordered morph. gr. ½, and cinchonidia gr. v, every three hours.

July 30. Had re-acted; complains of no pain except on motion. Pupils contracted; pulse 96; temperature 100°. Morphia stopped; the cinchonidia continued.

July 31, A. M. Pulse 96; temperature 102½°; ordered morph. and cinchonidia as before with the addition of spir. frumenti ℥ss. every four hours.

The day following pleuritic friction sounds were heard in the axillary line and in front of the chest. Pulse 120; temperature 100°; there was tenderness on pressure about the seat of the wound.

On the 4th, though feeling much easier, bronchial breathing was marked in the neighborhood of the wound. From this time his condition continued favorable, with only slight intermissions, and he passed through an attack of pleuropneumonia confined to the lower portion of the lung, so that by August 18 he was able to sit up, and the following day was walking about the ward.

August 21. Was feeling so well that he insisted upon going out against advice, and was so discharged. At this time dullness was still distinct, posteriorly from the spine of the scapula to the base.

Four days later, August 25, was again admitted. Very weak and prostrated; expansion over left side was almost nil. Percussion over left side showed dullness, with diminished

respiratory murmur and œgophony, and loss of vocal fremitus on palpation. Pulse 140, small and feeble; temperature 100°. Whisky ℥j, and carbonate of ammonia gr. v, alternated every two hours with morph. gr. ¼ and milk, beef tea and egg-nogg, *ad libitum.* Appetite poor and stomach inclined to nausea.

August 26, A. M. Temperature 102°; pulse 140. P. M. Temperature 102½°; pulse 120; respiration 30. Takes a little beef tea and milk; is very weak and prostrated. The evidence of increased effusion into the pleura became more and more apparent; all the physical signs increased; the temperature ranged from 100.5° to 103°, the pulse from 110 to 130, and the respiration from 30 to 40.

August 30. Five days after admission the pleura was aspirated, and thirty-seven ounces of serous fluid were drawn off. The aspiration was stopped at this point as the pain became severe, and the coughing was quite distressing. The day following he felt much better. Respiration was easy and the temperature normal. The next few days he continued feeble, with but little appetite, and the physical signs showed a re-accumulation of fluid in the pleura.

September 7. Aspiration was again practiced and thirty-seven ounces of purulent fluid were drawn off, the last of which was bloody. As in the former case the pleura was not emptied on account of the distress and coughing. This was followed by temporary benefit, which did not last however. On the 11th had a slight chill; on 14th the temperature was 102°; pulse 120 and feeble.

September 19. A permanent opening was made into the pleura below the angle of the scapula in the seventh intercostal space. Pus of a sanious character escaped; a drainage tube was inserted and left in and covered with oakum. This operation was followed by decided improvement for a time. The discharge was free, the temperature became normal, and the pulse lower and the appetite improved, and he slept well and was able to sit up. This improvement continued for some days; the discharge then gradually changed in character and became foul-smelling. In the meantime a long drain-

age tube, reaching to the bottom of the pleural cavity, had been inserted for the purpose of washing it out. It was found, however, impossible to do this efficiently. In the meantime a fresh point of discharge had opened at the site of the original wound, which had been closed after the first few days, so that there were two openings nearly five weeks apart, discharging very offensive and bloody pus.

November 14. It was determined to exsect a portion of rib for the double purpose of effecting more satisfactory drainage, and at the same time to allow the wall of the chest to fall in and obliterate the pleural cavity, according to the plan of Roser.

At this time our patient's condition was as follows: Pulse 120 and feeble; temperature higher in the evening than the morning. The discharge from both openings of a thin, sanious character, and extremely offensive; appetite poor. The urine was examined and found free from albumen. An incision was made down on to the eighth rib, and extended from the posterior opening which had been made for permanent drainage to the bullet wound. This incision was about five inches in length. A curved-pointed Sayre periostiotome was worked beneath the rib, and then by means of a gouge forceps it was cut through. In the same way the bone was cut at the anterior end of the incision, and the entire piece was easily lifted from the periosteum, which was covered by a bed of granulations. The bullet wound was found to communicate with a cavity about two inches in diameter, which was filled with decomposing clots of blood, but which did not communicate with the much larger cavity, which was situated posteriorly, and had been opened when permanent drainage was established. This cavity was situated upon the posterior part of the lung, and readily admitted a drainage tube eight inches long. These cavities were washed out with a weak solution of carbolic acid and a drainage tube was left in each. The operation was only fairly well borne, and before it was finished it was found necessary to administer stimulants by the rectum. The patient soon rallied, and the day following his pulse was: A. M. 98; temperature 98.5°; P. M. 108; tem-

perature 100°. His condition continued favorable, and marked improvement followed until the first week in December, when his temperature suddenly ran up to 103½° after a severe chill. At the same time pain in the back was complained of, and a fluctuating swelling was discovered which, on being opened, discharged a quantity of pus with a very offensive fœcal odor. The opening of this abscess was followed by rapid improvement in the general condition. The discharge, however, continued for days; when examining the parts to discover if possible the reason, a hard, movable body was felt; this proved to be the bullet—which was easily removed, now nearly six months after the original wound.

March 12. Dr. J. C. Mackenzie visited Gestner with me at his home, and dictated the following record of his present condition:

His general appearance is that of a man in good health and well nourished. There is a considerable amount of adipose tissue; this is very marked over the abdomen, which presents a very pussy appearance. The left shoulder droops somewhat, and there is general retraction of the left side of the chest. The left pectoral muscle is less prominent than the right.

Measurement. On a level with the nipples the left side of the chest measures 16¼ inches; the right 17¼. The expansion of the right side is three-quarter inches; of the left nil. Two inches above the nipples the left side is 16½ inches, and the right 17½. The expansion is equal on both sides, and amounts to one-half inch. Anteriorly the dullness commences on a level with the nipples, and increases downward for two inches, when suddenly percussion reveals a tympanitic sound, which is evidently from the stomach, the retraction of the diaphragm having drawn up that organ higher than usual.

In the axillary line the same condition holds true. Posteriorly dullness commences on a level with the lower angle of the scapula, and extends to the border of the ribs. The apex beat of the heart is felt to the outside of the nipple-line during expiration.

The respiratory murmur is heard beneath the clavicle; it is feeble and is not perceptible below the nipple. The same is found in the axillary line. In the supra-scapular region the respiratory murmur is distinct; it ceases, however, on the level where dullness commences—the lower angle of the scapula.

The wound is entirely healed and the cicatrix presents a perfectly healthy appearance. From the above it appears that although there is a general retraction of the left side to the extent of one inch, both respiratory murmurs and movements are perceptible above the nipple level. Below there is no expansion, and no movements can be heard.

To recapitulate the history just given: A young man convalescent from a pleuro-pneumonia caused by a gun-shot wound of the chest, develops an acute pleurisy with effusion, for which he is aspirated, and thirty-seven ounces of serous fluid drawn off. September 7, seven days afterward, the fluid had so far re-accumulated that aspiration was again practiced, and the same amount of fluid again withdrawn; this time, however, it was purulent. The fluid again accumulated, and September 19, twelve days from the second aspiration, a permanent opening was made into the pleura, and a drainage tube inserted and left in for the purpose of establishing constant drainage. The pus which escaped at this time was of a sanious character. This operation was followed by considerable improvement for a time. Symptoms of septicæmia, however, developed, and the discharge became foul-smelling. This was combated by washing out the cavity daily, without success, however, so that it became apparent that the patient must so sink unless in some way relieved. Although in a most unfavorable condition for an operation, and especially for the administration of an anæsthetic, it was deemed expedient to resect a portion of a rib in order thereby to establish more perfect drainage, and to be able to thoroughly wash out and disinfect the suppurating cavity, and also to hasten the healing process by allowing the chest-wall to fall in and obliterate the cavity which had been formed, and which the lung was not able to fill by expansion. The treatment after

the operation was the daily washing out of the pleura with a weak solution of carbolic acid or chloride of zinc. The good effect was manifested at once, and the improvement, though slow, was steady and constant, so that seven weeks after the operation he was able to leave the hospital and return home, the cavities being entirely filled up, and the discharge superficial and small in amount. At the present date, four months after the operation and eight and a half after the original wound, the cure may be said to be complete and perfectly satifactory. The wound is healed, there has been no discharge for three weeks, and his general condition is good; he is improving daily in weight.

The operative measures adopted in this case illustrate the various plans adopted for the mechanical relief of empyema and the removal of fluid from the chest. Various modifications have been adopted, but the essential features of these procedures are embraced under aspiration—incision through an intercostal space, making a permanent opening, and finally exsection of a portion of rib. The benefits and shortcomings of each are likewise to some extent illustrated.

Aspiration gave temporary relief not only to the respiration and circulation, but to the general condition, fever, etc. The relief, however, was only temporary, and in seven days the fluid had again accumulated to such an extent as to again require removal. It is to be remarked, and the fact is significant, that after the first aspiration the fluid, from being serous, became purulent. Was this due to the operation, or was it the natural development of the disease? The latter I believe was the cause, and for the following reasons: General experience has shown that it is not usual for a serous effusion to become purulent after aspiration; indeed, cases are reported where the character of the fluid has remained unchanged after being withdrawn a number of times; and also, where a single tapping has been followed by cure. It must also be remembered that the aspiration was necessarily undertaken in the height of an attack of acute pleurisy, five days from its onset, when both temperature and pulse were still high.

Fraentzel, in his article in Ziemssen, calls attention to the

fact that aspiration during the height of the disease is much more apt to be followed by rapid re-accumulation, and therefore advises, if the symptoms permit, delay until after the acute symptoms are over, a period which he places as usually three weeks from the onset.

The second aspiration was again followed by re-accumulation, so that twelve days later it was deemed expedient to give up hope of effecting a cure by simple withdrawal of the fluid, and by means of an incision to establish a free and permanent opening. Here again general experience is fully verified. Aspiration of a purulent fluid is, as a rule, of only temporary benefit. As a very occasional exception to the rule, repeated or even a single tapping of a purulent effusion effects a cure. It is, however, to be considered one of the rarities.

The result of the permanent opening and constant drainage was undoubtedly favorable, and certainly the effect continued longer than either of the tappings had done. It became apparent after a time, however, that stagnation of some of the pus occurred, and that this was undergoing decomposition and producing symptoms of septicæmia. To obviate this a long, flexible metallic catheter was introduced to the bottom of the pleural cavity, in the place of the shorter tube which had at first been introduced, and daily injections of warm water practiced so as to thoroughly wash out all decomposing material and keep the cavity as clear as possible. This could not be effectually done, and the discharge continued undiminished in quality and very offensive. The opening had been made at the point of previous penetration just below the angle of the scapula in the seventh intercostal space.

The great defect in this operation was that, owing to the proximity of the ribs to one another, the largest opening which could be made was not large enough to admit a tube of sufficient size through which the cavity could be efficiently washed out. Another defect was the use of a single tube instead of two. With two the washing out is much more satisfactorily done, as the water passing into the cavity by one finds free return through the other. Fraentzel, in the article

above spoken of, gives very minute directions, both for the operation and the subsequent management of these cases.

The opening into the pleura must be nearly two inches long, and into this is passed a silver canula wide enough to admit the passage of two soft catheters. The canula is fitted to a shield which fits the side of the chest, and except when opened for the purpose of injection is kept closed.

When the cavity is to be washed out, which should be practiced once or twice daily, the catheters are introduced through the canula and one is passed to the bottom of the pleural cavity; the other need not penetrate so deeply. The cavity is then filled very gently, no force being used by means of an irrigator; and when it is full the fluid withdrawn by means of a syringe from the other tube. This is repeated until the returning stream is clear and free from odor or flocculi. Fraentzel insists upon the necessity for using a syringe to remove the fluid so as to be sure of cleaning the lowest part of the cavity. The tubes then are withdrawn and the opening of the canula closed. Both the operation and all the subsequent dressings are done antiseptically. The injections used are weak solutions of carbolic acid and common salt, or permanganate of potash. Great stress is laid upon the necessity for frequent and efficient washing out of all decomposing substances. The radical operation as thus performed with the above described careful after-treatment has certainly yielded admirable results, and in many cases will be all sufficient to effect a cure. Thus Fraentzel reports out of eleven operations five complete cures, one recent case doing favorably, and five others dying after variable intervals, generally affected with amyloid degeneration of some of the organs.

There are many cases, however, where the operation as above described is not in itself sufficient. The opening in the intercostal space is either obliterated entirely or very materially encroached upon by the approximation of the adjoining ribs, thus rendering the efficient cleansing of the cavity unsatisfactory, or entirely impossible; and in the second place suppuration continues indefinitely, simply because there is no

way of bringing the wnlls of the cavity into contact with one another, and thereby produce obliteration; so that the only manner of cure which remains is by means of an enormous growth of granulations, which the system, already worn down, is not able to accomplish. On the one hand the lung can not expand and fill the pleural cavity, because it is bound down by false membrane, while the thoracic walls yield only to a certain and that an insufficient degree. To obviate this difficulty and to render an obliteration of the cavity possible by a still further sinking in of the chest-walls, Roser, of Marburg, has suggested and carried out the plan of exsecting a portion of rib, thereby enabling the thoracic wall to still further collapse to the extent of the thickness of the rib removed. This operation has the further advantage over the simple opening through an intercostal space, that it allows much more satisfactory access to the pleural cavity, and renders much more thorough disinfection possible. This operation was suggested by Roser, in the *Arch. f. Heilkunde*, 1865, and since then successful cases have been reported by German surgeons. I have not been able to find any cases where it has been performed by either English or American operators.

The history of our case clearly indicates the value of Roser's suggestion. The operation was undertaken when the patient was exhausted by a long, continued purulent discharge, and was manifesting all the symptoms of septicæmia, and was in a condition most unfavorable for any operative procedure, and yet immediate improvement followed and continued until a complete cure was effected. In the treatment of these cases the element of most importance is undoubtedly free drainage, and the prevention of retained secretions undergoing decomposition. This last is only to be effected by the constant washing out of the cavity, which should be continued until it is entirely obliterated and it is no longer possible to introduce the drainage tubes.

The antiseptic method has been advocated by those who have had most experience in these cases, and will, I doubt not, increase the success.

Roser's operation makes, I believe, a most important addition to our resources in the treatment of empyema, and will be the means of bringing to a successful issue many cases which would otherwise be condemned to a slow but certain death. Authorities differ considerably as to the proper point for opening the chest. Thus, Bowditch prefers a point low down in the back, so that the most depending portion of the chest cavity will be opened. Fraentzel on the other hand advises a position between the axillary line and the mammary line, and just above the sixth rib; on the left side in the fifth intercostal space, and on the right in the fourth to avoid wounding the liver. Low down there is danger of wounding the diaphragm, and besides the thickness of the muscles in the back render the intercostal spaces more inaccessible, and their action interferes materially with the tube or canula which may be left in the opening. Another objection I would urge against the opening being made far back is, in that case the patient must rest mostly upon the sound side, so as not to bear pressure upon the retained tube, and thus the action of the sound lung must be interfered with. While if Fraentzel's plan of emptying the lowest points by suction—or, better still, by the syphon action of a long tube falling over the side of the bed—be adopted, the retention of stagnating fluids may be as well, if not better, prevented by an opening at the point he suggests.

If now we contrast the operations, namely, a permanent opening made by incision or puncture and exsection of a portion of rib, the first is the simpler, and has the great advantage that it can easily be done without an anæsthetic, a fact in some cases of controlling importance. The second undoubtedly renders the pleura much more accessible to drainage and injection, and besides adds what I believe is in many cases the essential factor in the ultimate cure, namely, the possibility of obliterating the cavity by the falling in of the chest-wall. In many cases the condition of the patient will admit only of the slighter operation—at least for a time; while often it will be found that the results from it are only partially satisfactory. The experience which has been gained in the

operative treatment of effusions into the chest seems to justify the following conclusions:

"If there is danger to life, or if the effusion is very considerable and this is accompanied by dyspnœa, we must puncture at once; but even if there is no dyspnœa in case of very large effusion, we ought not to hesitate."—*Fraentzel, Ziemssen, Vol. iv.*

"Whilst serum is drawn I always hope for the best, and repeat thoracentesis by aspiration."—*Bowditch, Cincinnati Lancet, June*, 1876.

And finally, there is a general agreement that when the effusion has once become purulent, aspiration is only of temporary benefit, and the only hope for permanent improvement is constant drainage by means of a permanent opening.

The results of Roser's operation in the hands of German surgeons indicate that the removal of a portion of rib is the most efficient plan for effecting this.—*Cin. Lan. and Clinic.*

ART. II. *Placenta Prævia; Post-Partem Hæmorrhage; and Accidental Hæmorrhage.* By ELLERSLIE WALLACE, M. D.*

Placenta Prævia.—This is the name bestowed upon the position occasionally occupied by the placenta, *i. e.*, when it lies over the internal os uteri, so presenting a bar to the onward progress of the child, and necessitating the occurrence of more or less hæmorrhage when the woman goes into labor. As the internal mouth of the womb begins to dilate, it tears itself away from the lower segment of the placenta, and the blood of the mother flows.

As early as the middle of the sixth, or beginning of the seventh month, an abnormal discharge of blood may occur from the womb, but usually the woman pays no attention to this, or if she is over timid she may perhaps send for you. When you arrive she tells you that she has had a show.

In such an instance as this do not proceed at once to make

*A lecture delivered before the Medical Class of Jefferson College, Philadelphia.

a vaginal examination; but if the bleeding still continues put the patient to bed and keep her quiet, administering from gr. one-half to gr. two-thirds of opium, and gr. ij. iij. of sugar of lead in f ʒ ss. of the infusion of rose, if it be found necessary. We do not know why hæmorrhage should occur at such an early stage. As a general rule in such cases, all you have to do is to keep the patient quiet and bide your time.

Three or four of these shows may occur, and you may have but slight trouble in stopping them until the neck of the womb begins to dilate in earnest, and in so doing tears the placenta loose from the uterine sinuses. In such instances, although the os uteri is but ever so little open, the hæmorrhage is likely to be free.

If this severe bleeding persists, and the woman's condition becomes serious, proceed at once to make a vaginal examination. Pass the finger into the vagina. The external os uteri may or may not be taken up. However that is, you will at any rate find that the neck of the womb has softened, and you will be able to feel the placenta presenting at the inner mouth, and imparting to the fingers the sensation of a piece of raw beef.

When the os uteri is no larger open than the size of your thumb, the blood will pour out and the woman will die in a few moments unless she is properly attended to. If you can get the child out of the womb and give it room to contract fully, all the danger is over. But how is this to be done?

You not only feel the placenta presenting, but you also see that it is bleeding profusely. How is this hæmorrhage to be stopped?

One says introduce the finger into the uterus and separate the placenta from all of its uterine attachments. In the first place your finger is not long enough to do the work; and if it were long enough the woman would bleed to death before the placenta was half removed. I can not imagine why so great a man as Simpson should give such advice as this.

Another says tear away an edge of the placenta and deliver the child. If you do this you will most certainly deliver a dead child, for the hæmorrhage caused by so extensive a laceration of the placenta is sure to kill the child.

I might argue for some time and with much force upon the various methods of treatment which have been proposed, were it not that I believe them all to be utterly futile and of no service. To my mind the question lies in a nut-shell. We know that if we cork a bottle and turn it upside down after filling it with water, that the water can not escape. Upon this same principle, by corking the vagina, we can stop the flow of blood, and keep it within the woman's body.

My explicit advice to you in cases of placenta prævia is to tampon the vagina with sponge tents at once. If you can not procure sponge tents, pack the vagina and mouth of the womb with bits of sponge or rags—with any thing, in fact, I had almost said—with a brickbat, so as to stop the terrible gush of blood.

I remember one of my earlier cases of placenta prævia very vividly. I was driving along one of our streets in my buggy when my attention was attracted by the sight of a horse and carriage bearing down upon me furiously from behind. Reaching me, the driver shouted out at the top of his voice, "Are you Dr. Wallace?" and upon my assenting replied, "Follow me at once," and turning his horse's head drove down a side street at a full gallop, with me close behind him. Propped up beside him sat a woman as pale as death. Suddenly the carriage stopped, the man threw the reins over the horse's neck, jumped to the sidewalk, lifted the woman up bodily out of the wagon and carried her into the house. Gentlemen, I do not exaggerate, but when that woman was lifted from her seat a mass of blood as big as my head fell from her body to the ground. There was not any time for delay, so I rushed after the man in the house, and, comprehending the situation in a twinkling, shouted out my orders to him as follows: "Run for your life to the nearest drug-shop, at the corner of so-and-so, open the door, look to your left; there stands a box full of sponges; seize two or three of the biggest; don't stop to pay for them, and get back here just as fast as you know how." Almost before I had time to place the woman in bed, throw off my coat and roll up my sleeves, the man was back with the sponges. I tore

the biggest one into bits and stuffed the vagina so tight that the blood could not flow, and saved the woman's life.

Some authors will tell you that if the rectum be overloaded in these cases some brisk cathartic should be given. Gentlemen, let the rectum alone; you will have plenty to do in stopping the hæmorrhage promptly.

Well, we will imagine that you have been called to see the case in good season, and that you have stopped the rush of blood by stuffing the vagina full of sponges, or sponge tents, or bits of rag, or what-not. What are you to do then? Put on a T bandage and sit down and await developments.

Some say that this is all wrong; that if you do this the blood will still well away and dissect the placenta loose, and so allow internal hæmorrhage, a much more dangerous form of hæmorrhage than that which takes place openly. Do not believe it. You will find it troublesome enough to tear away a placenta from its uterine attachments with your hand; how impossible then must it be for any force of mere blood to dissect it away. The placental adhesions are very tough and strong.

Therefore I say plug up the vagina thoroughly and sit down and rest yourself, and send for a friend to share the burden of responsibility with you; or, if you are thrown entirely upon your own resources, plug the vagina and sit down and wait until you see fit to remove the plug, so as to examine if the mouth of the womb has dilated sufficiently to enable you to insert your hand into the uterus and break up the remaining placental adhesions, and turn the child and deliver it.

When are you to know that this time has come? When the tampon begins to protrude from the vulva, and when it can not be pushed back though much force be expended.

I remember a case which I saw in consultation with a friend, where, after waiting for a long while, we found the os uteri only about two and a half inches open. I passed my hand in and detached a small arc of the placenta, and delivered the child in such a short space of time that the whole amount of blood lost was only four ounces and a half.

Some physicians prefer to use a Barnes dilator instead of sponge tents, but we do not all carry Barnes dilators about with us. A Barnes dilator filled with air forms a most excellent plug for the vagina.

But you are still sitting beside your patient and waiting for some bearing down pains. Explain her condition to her family, but do not think of saying a word to her about it. Speaking of bearing down pains, the mere presence of the plug in the vagina will very often excite them. The presence of a great mass of sponge, or rags, or bits of handkerchief, or what-not in the vagina, will produce rebellion of the womb, and the woman will at once bear down.

Make it a point never to leave the house of a woman with placenta prævia until either all the danger is over, or at least until you can get some other competent and trustworthy physician to take your place. And follow in every case the rule which I have already laid down for you—never remove the plug, even for an instant, until it begins to protrude. So long as the vagina is well guarded by tampons the woman is safe; even if you have to sit at her bed-side for twenty hours waiting for developments.

Bitter hours these will be to those of you who may be forced to live them out. No man need want to attend a case of placenta prævia—ten times worse than puerperal convulsions is it.

Never wait longer than ten hours before changing the tampon, taking out the old sponges soaked with blood and serum, and placing new ones in their stead. Always make it a practice to carry a supply of sponges about with you in your country practice.

Why is it not proper to leave one set of sponges in the vagina more than ten hours? Simply because they become frightfully offensive, and are liable to poison the woman's system. Before removing the old sponges have the new ones well greased, and roll several of them up together.

Never talk of blood in a lying-in room. Whip out the old tampons as fast as your eager fingers can remove them. Have the woman first placed on her back, with her knees

drawn up and well opened. After you have removed the sponges thrust your hand in quick, and while your hand acts as a tampon, feel with your fingers whether the os uteri has yet sufficiently opened for you to attempt the delivery of the child. If it has not do not be slow in removing your hand and rushing in the new sponges. I tell you, gentlemen, the condition which we are now studying is one demanding exceeding promptness; a moment's delay at any time may be fatal.

If necessary leave the second tampon in for ten hours. I call to mind a case which Prof. Penrose and I attended, where we took turns in watching the patient for over twenty hours, and where Dr. Penrose finally saved the mother and delivered a living child. Gentlemen, that was a splendid achievement. When that child was delivered it was followed by a loud sound-hiss-s-s-s, and a clean spout of blood described an arc in the air, and struck the ground five feet away from the bed without breaking.

Delivery must be made with great deftness and wonderful activity in these cases. Grease the hand well, pass it well into the uterus, forearm and wrist acting as tampons; separate as much of the placenta as is necessary; the least the better. Put your whole hand into the womb and turn the child. You can not turn a child under such circumstances with two fingers. Get above the placenta and feel round until you get hold of both legs; and moving as rapidly as may be without unduly exciting the uterine contractions, turn the child and bring it down feet foremost. Hurry the labor for the sake of both mother and child. Deliver just as fast as you can without undue haste.

The minute the child is born go right up into the womb and clear the placenta away and make the uterus contract by some of the means at your command. The placenta delivered, twist the membranes up into a rope, so as to be sure that you have left nothing behind. Then put on a bandage round the patient's abdomen, and go home and thank God that you have saved the mother's life, if not the child's.

Remember what I have said to you. In placenta prævia

the rule is tampon the vagina and mouth of the uterus immediately with big pieces of—well, of whatever is handy. Afterward, while you are at work separating the placenta and feeling about for the child, get some one to push the womb well down from above, and always give a dose of ergot the moment you get hold of the child's legs. The lower part of the womb does not have so much contracting to do as the upper after the placenta is separated. Be sure to secure complete contraction; otherwise you will have very serious leakage of blood.

Placenta prævia is a very different matter from post-partum hæmorrhage. If any one of you ever puts a tampon in a woman's vagina after delivery, he ought to be hung by the neck until he die.

A few years ago a broad-shouldered, fine-looking young fellow from somewhere away out in Minnesota came on here about examination time, and calling at my office said: "Doctor, I attended three full courses of medicine at Jefferson College many years ago, but was never examined, and as I had a little time to spare and shall be in the city for a day or so, I suppose I may just as well take my diploma now. Can you examine me this morning in obstetrics?" "Certainly," said I; "tell me some of the queer obstetrical cases you have had away out in the wilds; seen much post-partum hæmorrhage?" "Oh, lots of it, Doctor." "Well, how have you treated it?" "Oh, tamponed the vagina, Doctor, tamponed every time." Gentlemen, that fine young fellow, I need not say, did not get his diploma from Jefferson Medical College then, and never shall get it.

If you tampon the vagina in post-partum hæmorrhage the woman will die by internal hæmorrhage after delivery. Never tampon except in a little bit of an abortion. Why, gentlemen, the womb, when relaxed, will hold a dozen pints of blood or more, and what woman can lose that quantity of blood in addition to the hæmorrhage attending labor and live? The contracted fibers of the uterus, unless they be like steel, can not resist the welling blood.

There is another form of hæmorrhage occurring before

labor and known as accidental hæmorrhage. This comes from the membranes inside of the womb. You put your finger into the vagina and find the mouth of the womb but ever so slightly open, and yet a stream of blood is slowly trickling down and out. What has happened here? The placenta is not presenting at the mouth. Why is there bleeding?

The carriage-wheel falls suddenly into a deep rut while the woman is driving, or she slips off the step of the carriage, or a toad jumps out into her path and causes a sudden shock to the nervous system, and she bleeds. What has caused the bleeding? The jerk in one case, the mental shock in the other, has concussed the great system of nerves which preside over uterine action, and, owing to a sudden irregular contraction of the uterus, the placenta has become separated at some point, and from all the torn uterine sinuses the blood flows and runs down between the uterus and its membranes, and so out by the vagina. This is what is called accidental hæmorrhage, and you can not put the placenta back and restore the continuity of its blood supply. What are you going to do? Why, if Mahomet will not go to the mountain, the mountain must be brought to Mahomet. If the bleeding is not stopped the woman will undoubtedly die, and if you tampon the vagina the blood still continuing to flow from the open sinuses and corked up into the womb will cause internal hæmorrhage without any sign. You must make the womb come to the placenta, as the placenta can not be made to go to the womb. You must rupture the membranes and so cause the womb to contract and settle down upon the placenta. The uterus, emptied of the amniotic fluid, will cling close to the body of the child, adapting itself to the fœta contour, and will bring the placenta down on the top of the child, and so compress it and put an immediate stop to the hæmorrhage.

In placenta prævia plug the vagina; in post-partum hæmorrhage make the womb contract; in accidental hæmorrhage rupture the membranes.—*The Hospital Gazette.*

On May 1 Mrs. E. H. Gary was reinstated in her place as superintendent of the Louisville City Hospital.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

ART. I. *The National Board of Health.*

The board met at Atlanta, May 5.

The following is a full roll of the members:

President, Dr. J. L. Cabell, of the University of Virginia; Vice-president, Dr. J. S. Billings, surgeon of the United States Army; Secretary, Dr. T. J. Turner, of the United States Navy.

Members—Dr. S. Smith, of New York; Dr. H. J. Bowditch, of Boston; Dr. R. W. Mitchell, of Memphis; Dr. S. M. Bemiss, of New Orleans; Dr. T. S. Verdi, of Washington; Dr. P. H. Bailhache, of the United States Marine Hospital; Dr. H. A. Johnson, of Chicago. Hon. S. L. Phillips, of the Attorney-General's office, is the legal adviser of the board. There was a full attendance, except Dr. Bowditch and Mr. Phillips. Many distinguished physicians were present by invitation. Dr. Cabell called the meeting to order and said:

"In behalf of the National Board of Health, I desire to say that, in asking a conference with leading sanitarians from various states, we were animated by a sincere desire to have the benefit of the counsel and advice, as well as the sympathy of all whose studies have led them to the investigation of sanitary questions. The constituting act looks to such a course; for after declaring that the board shall consist of seven members from civil life and four from the departments of the United States, it goes on to contemplate and direct a general conference with students of sanitary laws and observers of their action in various parts of the country." The president here read an exposition as to the studies and methods of the board. He then mapped out the course of a general consultation with sanitarians from all parts of the Union, by which the board hoped to be more efficacious.

Dr. Billings was asked to read the programme which had been arranged by the committee appointed to prepare a schedule for the present meeting.

He announced that the meeting of the day would be re-

stricted to the subject of a maritime quarantine, and would not touch on those other subjects, which would be reserved for other sessions and separate schedules.

The chair called on Dr. Vanderpoel, of New York, to open the debate. The points touched upon were the sanitary history of a vessel in a foreign port, and its sanitary treatment when it arrives from an infected port. These questions were ably discussed by Drs. Vanderpoel, of New York, Cleeman, of Philadelphia, Howard, of Baltimore, Bemiss, of New Orleans, G. Dowell, of Galveston, Blaine, of Brunswick, and others.

The president announced that Dr. Chancellor, of Baltimore, had offered a paper on "the plague," with special reference to the quarantine. On motion, Dr. Chancellor was requested to read his paper, and he complied. He said the assembly was not to consider one epidemic disease. Last year the yellow fever carried death into the households of the Mississippi Valley. This epidemic has attacked alternately the Atlantic Coast and then the Mississippi Valley. He said there are other dangers than yellow fever. There are cholera and the plague to be dreaded. He had investigated the question of the plague, and wished to bring to notice a danger which might press itself on us within six months. He had different ideas of quarantine from those generally received. The great need is not to stop commerce, but to enforce strict sanitary laws in cities. His paper was an inquiry into the history of the plague, but referred especially to the proper methods of quarantine against it. The position taken in the paper was that no epidemics like yellow fever and the plague are contagious from the person or the clothing. They can only spread when the condition of the air is favorable; and, therefore, there is no reason for a quarantine. The source is back of this. It is in the condition of the cities where the epidemic is to spread. He said the support of a great national quarantine would be stupendous folly if it tried to keep out epidemics by excluding merchandise.

On the following day, among the topics considered were:

First—River transportation—(*a*) How to secure a steamer

freedom from infection at New Orleans. (*b*) How to deal with steamers at ports along the Mississippi and its tributaries.

These subjects were discussed by Drs. White and Chaille, of New Orleans, Dr. Mitchell, of Tennessee, Dr. Pinckney, of Kentucky, and others. At the request of several members, Dr. A. N. Bell, of New York, cited the experiments that he had made in heat disinfection. He stated that thirty-one years ago he was called upon to take measures against the yellow fever on a schooner that came from a point where the disease had been raging two years. For three hours he steamed the ship, under as intense heat as the boilers would give; then he scraped and painted the vessel, and three weeks later no case of sickness was on board. A year later the ship went on a cruise in the worst fever ports of the West Indies, and no case of fever was developed on board. At the same time and place he treated a gunboat in the same manner, with the same results. Some time later two boats were taken from the same squadron to New York, passed quarantine, but though no cases of fever had been aboard for some months, the men engaged in remodeling them, in a New York dock, were infected with the fever. These boats had not been disinfected by the steam process. Other experiments in steam disinfection, which Dr. Bell has since made in person, were cited, and though there have been failures, he attributes them to a lack of thoroughness in the process. Steam heat is preferable to dry heat, because the former can be used with less damage to goods.

The third day of the session was largely occupied with the debate on river transportation. Among other subjects the destruction of the yellow fever germ was considered.

Dr. A. N. Bell expressed himself against some suggestions that had been casually made in one of the speeches of the debate about whitewashing as a prevention against yellow fever. If lime must be used, use it unslacked. In measures against yellow fever dead lime should be done away with, as well as all other dead matter.

This remark turned the debate upon the subject of disin-

fectants, and several gentlemen expressed a belief that dry steam was the most potent of disinfectants. One speaker remarked that only a temperature of 250° would destroy germs of yellow fever.

Dr. Plunkett, president of the Sanitary Council of the Mississippi Valley, said the idea was general in the Mississippi Valley that the "Plymouth" had been frozen out, and that cold would exterminate germs of yellow fever. It would pacify the public mind if the question of cold as a disinfectant was settled.

Dr. Turner replied that the disinfection of the "Plymouth" was made by breaking up her decks, cleansing and freezing her, but temperature was not noted by medical officers; the lowest recorded temperature was 7° C. Yet a case originated on her in March last, on the starboard side of the vessel, and quite recently a case has occurred in a corresponding quarter of the vessel on the opposite side. It is probable that the water was frozen in the bilges and thawed out by steam.

Dr. Rauch suggested that if the medical officer of a vessel was responsible for her condition instead of the captain, the fever would be prevented. He thought that it was important that the board should take some action toward instituting the change.

Dr. Guion, of the United States Navy, said Dr. Rauch was right. The medical officer of a vessel could only make suggestions. The captain is responsible for the sanitary condition of the ship, and even puts men on the sick list.

Dr. Plunkett here insisted on an answer to his question, whether or not the "Plymouth" had been frozen out?

Dr. Guion replied that she probably had, though he could not answer until an official report had been made.

The next subject of discussion was announced by President Cabell.

Second—Railroads—(*a*) Sanitary condition of depots and stations. (*b*) Quarantine stations on railroads, their position and organization; specify for passenger trains, sleeping-cars, car construction, freight trains, construction trains. (*c*) Mails. (*d*) Expressage.

Dr. Kedzie offered on this subject the following resolution:

The depots and stations of railroads and their surroundings shall be kept in a sanitary condition; free from all stagnant water and decomposing organic matter; the local railroad agent or official shall daily inspect the water-closets, and shall cause the floor, seats and urinals of such water-closets to be kept clean; he shall cause the vaults to be emptied at least every three months, and from the first of May to the first of November he shall cause the privy vaults to be disinfected every week, by pouring into every vault a solution of twenty to fifty pounds of sulphate of iron or sulphate of zinc, or ten to fifteen pounds of chloride of lime.

These resolutions elicited general assent.

The next subject of discussion was announced to be, "System of notification of occurrence of first cases of dangerous diseases, especially of yellow fever. When is it proper to say yellow fever is epidemic in a town?"

Deciding that this question had already been settled by state and local authorities, the board adjourned to meet in conjunction with the Sanitary Council of Mississippi Valley.

The final session was held on Friday.

Dr. Rauch, secretary of the Sanitary Council of the Mississippi Valley, requested before the regular routine of business was entered upon to be permitted to report to the board a series of propositions which had been adopted by the Sanitary Council on the preceding evening. The propositions were read and left with the National Board of Health for future consideration. A plan, the arrangement of which had some time ago been referred to a committee, was then adopted, securing co-operation between the National Board of Health, the Sanitary Council of the Mississippi Valley and the American Public Health Association, in collating knowledge of the actual sanitary condition of every city in the United States, particularly in the southwestern states along the Mississippi River. It is designed to ascertain as far as possible every thing that will tend to effect the sanitary condition, whether for good or evil, of the various cities, the systems of sewerage, the condition of vaults and the disposi-

tion that is made of refuse matter, and from these data to compile the best sanitary regulations and correct existing abuses. After adopting these measures the National Board of Health adjourned to meet in convention at Nashville, on the 8th of November.

From this it is not to be understood that the National Board of Health has literally adjourned until that date; they will, on the other hand, hold sessions during the entire summer. The stenographic report of the debates, and the proceedings at this, the Atlanta Convention, will be written out, and, together with the propositions reported to the board by the Sanitary Council, will be thoroughly discussed. From these discussions will be ascertained, as far as possible, the best sanitary measures for the prevention as well as the eradication of epidemics; these results, when obtained, will be furnished to local and state sanitary bodies. Then, on the eighth of November the board will again meet in Nashville, there to hold a conference similar to the one just held in Atlanta, with leading sanitarians invited from every quarter of the Union. Should the board obtain an appropriation of six hundred and fifty thousand dollars from Congress as they desire, they would be enabled themselves to put into effect the results of their deliberations; but with their present means they can only accumulate knowledge, deduce sanitary measures from it, and refer them to local and state authorities to be put into effect.

The Sanitary Council of the Mississippi Valley and the American Health Association then adjourned to meet in Nashville, on the eighth of November.—*Med. and Surg Rep.*

ART. II. *American Medical Association. Thirtieth Annual Meeting. Held in the City of Atlanta, Ga., May* 6, 7, 8 *and* 9, 1879.

The association met in De Give's Opera House, and was called to order at 11 A. M., May 6, 1879, by the president, Theophilus Parvin, M. D., LL.D., of Indianapolis, Ind.

Prayer was offered by Rev. D. W. Gwin, D. D.

The address of welcome was delivered by Dr. Joseph P. Logan, chairman of the Committee of Arrangements.

The following gentlemen were elected members by invitation: Drs. A. W. Griggs and J. E. McMillen, of West Point, Ga.; C. B. Ridley, of La Grange, Ga.; R. C. Worth, of Decatur, Ga.; J. Dickey, of Thomaston, Ga.; J. C. Walker, of Wilmington, N. C.; W. J. Harrell, of Bainbridge, Ga.; G. Ellis, of Boonville, Mo.; J. B. Roberts and H. N. Hollifield, of Sandersville, Ga.; B. W. Toole, of Talladega, Ala.; R. C. Eve, of Augusta, Ga.; J. T. Slaighter, of Villarica, Ga.; George Homan, of St. Louis, Mo.; and A. M. Owens, of Evansville, Ind.

The following gentlemen were elected permanent members: Drs. J. M. Johnson, H. L. Wilson, J. F. Alexander, C. Pinckney, Jas. A. Gray, D. H. Howell, W. Dean, H. B. Lea, R. B. Ridley, and J. T. Johnson, of Atlanta, Ga.

General F. A. Walker, of Washington, D. C., was invited to take a seat upon the platform.

Letters were read from Drs. H. I. Bowditch, of Boston, J. C. Hutchinson, of Brooklyn, and H. R. Storer, of Newport, regretting their inability to be present at the meeting of the association.

Dr. Theophilus Parvin, of Indianapolis, then delivered his address, which was a most scholarly production, and was listened to with profound attention. The following is a brief abstract: After referring to the great subjects of human study—science, literature, philosophy and theology—he passed to a department of medicine not limited by scalpel, test-tube and microscope. Knowledge of the intellectual and of the moral nature of man was just as essential to the thoroughly furnished physician as any knowledge of the merely material organism.

At the very outset of our inquiries was, Why did medicine exist? What reason for it? It was born of human sympathy; it sprang from the heart of man, and was an evidence of humanity; it lived because it could live; it had a right to live. Medicine came in response to the cry of human suffering. Pain was the first lesson in the book of evil which most

human beings read in such bitterness of sorrow. The problem of physical suffering, the mystery of pain, was then considered, and Alexander Bain's definition given: "Pain expresses an ultimate fact of human consciousness; a primary experience of the human mind, resolvable into nothing more general or more fundamental than itself." But why was that fact? The most obvious reason for the existence of pain was that which the word itself signified. Reference was then made to the various uses of pain. Even with the various utilities of pain, it still must be referred to as often a mystery —more was hidden than revealed.

Greater than the mystery of life was the mystery of death. Here reference was made to what had been written regarding this mystery by Bacon, Fontenelle, Maudsley, Johnson and others.

But what was man, thus made subject to disease and death? In the human ovum, which neither chemistry nor the microscope could distinguish from the common mammalian ovum, there dwelt physical potentialities—species, races, family, individuality. In that ovum there was the assured promise of all that made a perfect organism. The author then referred to facts of heredity—intellectual, moral and pathological. Passing the evolution of the various parts of the human organism, the transition to the external world, and the shades of speculation as to when, where and how man originated, he passed to the consideration of man as he now is, "the heir of all the ages." The general belief of mankind was that his nature was dual, and expressed by the terms body and mind.

The assertion of human duality included two propositions: first, man had a physical organization; and second, a mind. He first considered man as a material organism. He did not believe that the phenomena of living beings could all be referred to physico-chemical laws; but we must with Beale accept the idea of vital power as being super-physical, and with that idea its correlate, a living creator of such power. Passing the perfections of the human body, the speaker reached the second proposition: "The complete conception of man includes mind." Had physiology reduced the facts of intel-

ligence to the phenomena of matter? Certain utterances seemed to indicate that some answered the question in the affirmative. Many of the utterances, however, were open to criticism, if not to unequivocal rejection. The speaker then noticed some of the difficulties which were obvious in all schemes of mental physiology, or effort to interpret phenomena of mind by physical facts. The identity of corporeal and of spiritual phenomena was an affirmation which ought to be consigned to the list of impossible hypotheses. The speaker then passed to the problem of teleology, which commended itself especially to our profession. It was not set aside by the development theory; nor was it to be cast aside because of its abuses. Time was lacking to refer to the evidences of design presented by the human body; nor was it necessary, for every physician knew them. The author dwelt upon that part of his subject at some length. Accepting gratefully all the facts of science, let us beware of rejecting every thing that might not be capable of mathematical demonstration, and compelling our assent by absolute necessity. There might be truths more important, but less open; we might hear the deep but distant murmur of the immortal sea as it beat against the shores of Time, ready to bear upon its mighty bosom the children of men from life to life, and the law of continuity be found as true of the spiritual as it was of the material world.

The address was received with great applause.

On motion, ex-Presidents Davis, of Chicago, Gross, of Philadelphia, Toner, of Washington, and Richardson, of New Orleans, were invited to seats on the platform.

Dr. E. Seguin, of New York, made a report on the adoption of the metric system by the association. On motion of Dr. Pallen, of New York, the consideration of the report was postponed until Thursday.

Dr. A. N. Bell, of New York, called up an amendment offered at the annual meeting in 1878, and moved its adoption. It provided for the consolidation of sections four and five, to be hereafter known as section four, on Medical Jurisprudence, State Medicine, Public Hygiene, etc.

Dr. Lilley, of New Jersey, asked whether a gentleman who was not in affiliation with any regular medical organization, when such organizations existed in the state in which he resided, could register as a permanent member of the American Medical Association upon the claim that he had been in affiliation with such organization. Referred to the Judicial Council.

The association then adjourned, to meet on Wednesday, May, 7, at 9:30 A. M.

The association was called to order at 9:30 A. M. by the president.

Dr. Logan, chairman of the Committee of Arrangements, announced the following for election as members by invitation: Drs. T. H. Morgan, of Cochran, Ga.; A. Means, of Oxford, Ga.; J. R. Humphrey, of Acworth, Ga., and E. M. Nolan, of McDonough, Ga.

The following named gentlemen were elected permanent members: Drs. C. A. Simpson and John M. Johnson, of Atlanta, Ga.; Dr. George C. Dugas, of Georgia; J. A. Beasley, of Alabama, and M. J. Ealey, of Lafayette, Ind.

A telegram was read from Dr. J. A. Morton, of Columbus, Ohio, announcing that the bill making provision for material for anatomical dissection had passed the legislature of that state.

On motion by Dr. Atkinson, of Philadelphia, the congratulations of the association were extended to Dr. Morton, who had been mainly instrumental in securing the passage of the law.

On motion of Dr. A. C. Post, of New York, the Publication Committee were instructed to publish 5,000 copies of the president's annual address for *pro rata* distribution among the members of the association.

Dr. Fricke, of Philadelphia, in accordance with instructions received from his county medical society, introduced a resolution asking that the American Medical Association request Congress to leave the present law regulating the duty upon quinine unchanged.

The resolution was laid upon the table.

Dr. Roberts, of Nashville, introduced a resolution asking Congress to remove the duty upon the alkaloids of cinchona. Carried.

ADDRESS OF THE CHAIRMAN OF THE SECTION ON PRACTICE OF MEDICINE, ETC., BY DR. THOMAS F. ROCHESTER, OF BUFFALO, NEW YORK.

Dr. Rochester introduced his address by a reference to the epidemic of yellow fever which prevailed in the United States last year, and, with a view to answering the question, Was it possible to ward off its invasion; or, in case of its appearance, to confine it within prescribed limits? he passed first to its etiology. Where the disease was born was known. It originated in the West Indies. It never originated *de novo* except in its primal birthplace. It could not be communicated from individual to individual by direct contagion, but through other media. The speaker then traced its mode of spread. Medicine would not cure it, nor would antiseptics or cleanliness prevent the progress of the disease. A strictly enforced quarantine was the means by which it must be arrested. Reference was then made to the successful quarantine at the port of New York. He believed that if any agent was ever found which would arrest the disease, it would be gasiform or aëriform. He concluded that part of his address by urging the establishing of a permanent national health bureau.

Reference was first made to the propagation of typhoid fever by means of drinking-water, and the credit given to Dr. Austin Flint, of New York, for first directing the attention of the profession to that method about thirty-five years ago. Special reference was also made to a paper on typhoid fever, by Dr. Van de Warker, of Syracuse, and published in the *Popular Science Monthly*. Dr. Rochester then spoke of the propagation of the disease by means of ice, and cited several instances in which that mode of transmission was very apparent. He believed that the poison was not destroyed or impaired by freezing. A somewhat extended reference was then made to purification of sewage, and the opinion expressed that no sewer should be permitted to empty into a stream.

Under that head special attention was directed to Alpine sanitaria. Hygiene, in its largest sense, was recommended as the important factor in the management of the disease.

Instead of asking how little medicine was required, it was too common to act upon the principle of how much would be tolerated. Under that head attention was directed to certain new anæsthetics, the too promiscuous use of jaborandi, etc. The new dispensatory was commended.

Dr. Rochester, under that head, referred to papers by Flint and Busey, Flint, Jr., Richardson, of Boston; Longworth, Bowditch, Whittaker, Loring and others. In conclusion reference was made to the telephone and the phonograph. Their possibilities could not be fathomed. The address was referred to the Section on Practical Medicine.

ADDRESS OF THE CHAIRMAN OF THE SECTION ON STATE MEDICINE AND PUBLIC HYGIENE, BY DR. JOHN S. BILLINGS, OF WASHINGTON, D. C.

The number of patent ventilators and gas-traps was steadily upon the increase; but in our knowledge of the causes of disease and the means of avoiding or destroying those causes, little or no positive advance had been made. So long as we had to contend with municipal and state authorities, which almost absolutely refused even the cost of obtaining reliable information, there was but little hope for satisfactory public hygiene.

If the law creating the National Board of Health was to succeed, it must be supported by medical men, and the call for aid from the board should be responded to by the American Medical Association, which was the representative medical body of the nation. Its failure would, in a measure, be the failure of the medical profession, and its success would be their success.

The causes of want of interest in public hygiene by medical men were then noticed; and first, was the actual deficiency in accurate scientific knowledge upon the subject. There were but few physicians who would hesitate to act as health officers and give advice upon sanitary questions, and yet not one in one hundred had a thorough acquaintance with any

one branch of public hygiene. Now was it strange that such was the case, for the subject had for its true basis physics, biology and political science. Second, another cause for the neglect of public hygiene was a distrust of the capacity and motive of some of those who were prominent as professed sanitarians, and that distrust was founded upon the necessary relations that existed between sanitarians and politicians. Such association, however, was inevitable.

The subject of vital statistics was then noticed, but more especially the registration of deaths and disease. Such registration was a necessity to successful public hygiene. No scientific knowledge of the subject could be obtained until the character and the quantity of disease became a known quantity. Mortality statistics would not serve the purpose; and, until we learned how many cases of disease occurred under varying circumstances in different localities, no substantial advancement could be made. The difficulties of the registration of death statistics were then considered, and also the registration of disease. Special attention was directed to an opportunity to be offered for obtaining such statistics for the entire United States as would be of positive value and furnish definite foundation for legislation with regard to public health. The opportunity would be afforded at the taking of the next census. He recommended that an appeal should be made to all the physicians in this nation, through the American Medical Association, to aid in furnishing the information needed. Books for the purpose would be sent to all physicians in the United States, as far as their addresses could be obtained, and they would be sent to any physician who made application for them.

An appeal was made to the medical press and to the profession to assist in this work.

The address was referred to the Section on Public Hygiene and State Medicine.

Dr. N. S. Davis, of Chicago, chairman of the special committee to report on the recommendation made by Dr. Richardson in his annual address, relative to encouraging original investigation in medical science by means of prize essays, re-

ported in favor of making alterations in the by-laws providing for four annual prizes of two hundred and fifty dollars each.

The report was signed by Drs. Davis, Gross and Toner.

As an amendment to the by-laws, the report, under the rule, went over for one year.

Dr. Keller's amendment, that nominations for officers should be made only from the members and delegates present at any meeting, was laid upon the table by a vote of 120 to 5.

Dr. Caldwell's amendment, providing for a section on neurology and electrology, was laid upon the table without dissent.

Dr. Hitchcock's amendment was tabled.

Dr. Maddux's amendment, providing for a section on genito-urinary diseases, gave rise to some discussion, and was referred to the Surgical Section for instruction, by a vote of 78 to 73.

The following amendment, reported by Dr. N. S. Davis, of Chicago, viz., "And hence it is considered derogatory to the interests of the public and the honor of the profession for any physician or teacher to aid, in any way, the medical teaching or graduation of persons knowing them to be supporters and intended practitioners of some irregular or exclusive system of medicine," was opposed by Dr. E. S. Dunster, of Ann Arbor, Mich., in a carefully prepared speech, was discussed by Dr. Davis, who suggested that, while he individually could not willingly teach students under such circumstances, the association should be very careful about tying the hands of the profession in any respect, and bringing it into collision with public authority; and upon motion made by Dr. Pratt, of Michigan, was laid upon the table for one year.

Drs. W. O. Baldwin, of Alabama; R. G. Jennings, of Arkansas; R. B. Cole, of California; C. Y. Chamberlain, of Connecticut; C. H. Richardson, of Delaware; J. M. Toner, of District Columbia; J. P. Wall, of Florida; G. G. Crawford, of Georgia; H. A. Johnson, of Illinois; J. F. Hibbard, of Indiana; H. B. Ransom, of Iowa; C. V. Motham, of Kansas; Dudley S. Reynolds, of Kentucky; E. S. Lewis, of

Louisiana; T. L. Estabrook, of Maine; T. B. Evans, of Maryland; L. B. Warner, of Massachusetts; J. H. Jerome, of Michigan; J. H. Murphy, of Minnesota; E. P. Gale, of Mississippi; A. B. Sloan, of Missouri; S. Lilly, of New Jersey; E. Grissom, of North Carolina; M. A. Pallen, of New York; W. H. Mussey, of Ohio; S. D. Gross, of Pennsylvania; C. H. Fisher, of Rhode Island; F. P. Porcher, of South Carolina; J. D. Plunket, of Tennessee; H. W. Brown, of Texas; A. S. Payne, of Virginia; S. Marks, of Wisconsin; W. H. Forwood, of U. S. Army; and T. J. Turner, of U. S. Navy, were appointed Committee on Nominations.

The association then adjourned, to meet on Thursday, May 8, at 9:30 A. M.

The association was called to order at 9:30 A. M. by the president.

The following gentlemen were elected permanent members: Drs. W. J. Harell, of Bainbridge, Ga.; S. C. McCormick, of Duluth, Minn.; Thomas R. Wright and R. C. Eve, of Augusta, Ga.; W. W. Evans, of Oxford, Ga.; J. H. Low, James B. Baird and J. T. Johnson, of Atlanta, Ga.; and A. G. Whitehead, of Waynesboro, Ga.

The following gentlemen were elected members by invitation: Drs. Thomas J. Jones, of Hogansville, Ga.; J. P. Rosser, of Conyers, Ga.; C. F. Patillo, of West Point, Ga.; F. R. Calhoun, of Euharley, Ga.; R. H. Jenkins, of Hogansville, Ga.; David G. Hunt, of Dalton, Ga.; L. B. Alexander, of Forsyth, Ga.; C. H. H. Sayre, of New York; and J. B. Carlton, of Athens, Ga.

The secretary read a communication that had been addressed to the chairman of the Committee of Arrangements, and purporting to come from Powers & Weightman, of Philadelphia, and C. T. White, of New York, in which the statement was made that if the duty on quinine was removed they could no longer continue its manufacture.

The communication was laid upon the table.

Resolutions relative to the death of Wm. N. Compton were introduced by Drs. Grissom, Platt and Toner, and adopted by the association.

Resolved, That the American Medical Association earnestly recommends to each and every physician in the United States that he shall furnish such information as is requested by the superintendent of the census, and that he shall keep such record of his cases for the year beginning June 1, 1879, as will enable him to make this information accurate and reliable. Adopted.

Dr. Davis, of Chicago, chairman of the committee, reported and offered the following resolution:

Resolved, That a committee of five be appointed by the president, whose duty it shall be to investigate the practicability of carrying into active operation a plan for obtaining accurate meteorological and clinical observations, and report at the next meeting of the association. Adopted.

The report on necrology was presented by Dr. J. M. Toner, and referred to the Committee on Publication.

The report on sanitaria for consumptives was presented as received from Dr. H. I. Bowditch, of Boston, and, at his request, the committee was continued, in order that it might be able to make the report complete. At the request of the chairman, Dr. Wm. Pepper, of Philadelphia, was added to the committee.

The report announced that Congress had made an appropriation sufficient to allow of the early publication of two volumes.

Thirteen hundred copies of the Transactions for 1878 were published.

The report was referred to the Committee on Publication.

The balance in the treasury at date was $1,445.66. It was suggested that non-payment of dues for two instead of three years should work the forfeiture of permanent membership.

Report accepted, and referred to the Committee on Publication.

The report showed that the library at present contained 2,816 volumes, exclusive of pamphlets.

Referred to Committee on Publication.

Dr. S. E. Chaillé, of Louisiana, read a paper upon State Medical Societies and State Medicine before the Section on State

Medicine and Public Hygiene. By the section it was referred to the association, and was read in general session. From general facts with regard to state medicine, and practical conclusions based upon the position occupied relative to the subject by thirty-seven state medical societies, he brought forward two important questions which had not been sufficiently considered by the association. (1) What was state medicine? And (2) what could the association do to the end that the practice of state medicine could be promoted? The progress of state medicine was dependent upon the enlightenment of public opinion. State medicine was the application by the state of medical knowledge for the common weal, and embraced every subject for the comprehension of which medical knowledge, and for the execution of which state authority, were indispensable. With reference to state medicine, physicians were prone to dwell upon and to denounce an existing evil, whatever it might be, and to urge its correction, but did not tell how it was to be done.

In answering this second question Dr. Chaillé presented the progressive steps made in Great Britain with considerable detail, for he believed they were the steps which must be taken in this country. To the end of giving the greatest benefit which could arise from the proper practice of state medicine, he proposed a standing committee upon the more efficient organization of the association and all its branches. Perhaps an executive council should be constituted and charged with the duty of devising ways and means to promote uniformity, as well as to strengthen and harmonize all of its practical operations. As at present constituted, the American Medical Association had little or no knowledge of its component parts; and a head which had no knowledge of its parts should be gotten rid of. He suggested that the Transactions of the association be published after the manner of the Transactions of the British Medical Association. No physician residing in the United States should be elected either as a permanent member or as a member by invitation of the association unless he was a member of the state medical society of his own state, if such an organization existed.

Several propositions of like character, and affecting the reorganization of all county and state medical societies, were submitted, after which the paper was referred back to the Section on State Medicine for further consideration.

ADDRESS OF THE CHAIRMAN OF THE SECTION ON SURGERY AND ANATOMY, BY DR. MOSES GUNN, OF CHICAGO, ILL.

Dr. Gunn's address consisted of a careful and close argument upon the pathology of suppuration. He reviewed the theories which have been advanced regarding the origin of pus, by Virchow, Cohnheim and Billroth, and the conclusion was reached that suppuration was not an unmixed evil. It was a dangerous thorn, from which occasionally, at least, a fragrant flower was plucked.

The address was referred to the Section on Surgery and Anatomy.

Dr. S. D. Gross, chairman of the Committee on Nominations, announced that the committee was ready to make a report.

Dr. E. Grissom, secretary, read the following, which was unanimously accepted:

For President—Lewis A. Sayre, M. D., of New York.

For Vice-Presidents: First—R. Beverly Cole, M. D., of California. Second—E. M. Hunt, M. D., of New Jersey. Third—H. O. Marcy, M. D., of Massachusetts. Fourth—F. Peyre Porcher, M. D., of South Carolina.

For Treasurer—Richard J. Dunglison, M. D., of Pennsylvania.

For Librarian—William Lee, M. D., of District of Columbia.

For Committee on Library—Johnson Eliot, M. D., of District of Columbia.

Next Place of Meeting—New York City.

Time of Meeting—The first Tuesday in June, 1880.

For Assistant Secretary—Walter R. Gillette, M. D., of New York.

For Committee of Arrangements—Dr. S. O. Vanderpoel, of New York, chairman; Drs. Stephen Smith, Wm. M. Polk, Robert F. Weir, Chas. Inslee Pardee, A. A. Smith and Thos.

T. Sabine, of New York; Dr. Joseph C. Hutchison, of Brooklyn; Dr. M. H. Burton, of Troy, N. Y.; and Dr. E. H. Parker, of Poughkeepsie.

For Committee on Prize Essays—Drs. Austin Flint, Sr., A. C. Post, J. W. S. Gouley and M. A. Pallen, of New York City; and J. C. Hutchison, of Brooklyn, N. Y.

For Committee on Publication—Drs. W. B. Atkinson, T. M. Drysdale, A. Fricke, S. D. Gross, Casper Wistar, R. J. Dunglison, of Pennsylvania, and Dr. Wm. Lee, of District of Columbia.

The committee also reported the following nominations for chairman and secretaries of Sections for 1880:

I. Practice of Medicine, Materia Medica and Physiology—Dr. J. S. Lynch, of Maryland, chairman; and Dr. W. C. Glasgow, of Missouri, secretary.

II. Obstetrics and Diseases of Women and Children—Dr. Albert H. Smith, of Pennsylvania, chairman; and Dr. Robt. Battey, of Georgia, secretary.

III. Surgery and Anatomy—Dr. W. T. Briggs, of Tennessee, chairman; and Dr. J. Powell Adams, of Minnesota, secretary.

IV. Medical Jurisprudence, Chemistry and Psychology—Dr. James F. Hibbard, of Indiana, chairman; and Dr. Thos. F. Wood, of North Carolina, secretary.

V. State Medicine and Public Hygiene—Alabama, Jerome Cleveland, M. D.; Arkansas, W. H. Hawkin, M. D.; California, W. F. Cheeny, M. D.; Colorado, C. Denison, M. D.; Connecticut, C. A. Lindsley, M. D.; Delaware, Wm. Marshall, M. D.; District of Columbia, Thos. Antisell, M. D.; Florida, J. P. Wall, M. D.; Georgia, J. P. Logan, M. D.; Illinois, W. A. Johnson, M. D.; Indiana, J. F. Hibbard, M. D.; Iowa, J. A. Blanchard, M. D.; Kansas, D. W. Stomont, M. D.; Kentucky, S. Brandeis, M. D.; Louisiana, S. E. Chaillé, M. D.; Maine, A. P. Snow, M. D.; Maryland, F. B. Evans, M. D.; Massachusetts, H. I. Bowditch, M. D.; Michigan, H. B. Baker, M. D.; Minnesota, C. N. Hewitt, M. D.; Mississippi, Wirt Johnson, M. D.; Missouri, H. H. Mudd, M. D.; Nebraska, J. Block, M. D.; New Hampshire,

G. P. Conn, M. D.; New Jersey, D. A. English, M. D.; New York, A. N. Bell, M. D.; North Carolina, J. C. Walker, M. D.; Ohio, J. C. Reeve, M. D.; Oregon, H. Carpenter, M. D.; Pennsylvania, B. Lee, M. D.; Rhode Island, E. M. Snow, M. D.; South Carolina, R. A. Kinlock, M. D.; Tennessee, T. A. Acberson, M. D.; Texas, H. W. Brown, M. D.; Virginia, F. D. Cunningham, M. D.; Vermont, L. C. Butler, M. D.; West Virginia, E. A. Hildreth, M. D.; Wisconsin, J. T. Reeve, M. D.; United States Army, Jospeph R. Smith, M. D.; United States Navy, A. L. Gihon, M. D.

VI. Ophthalmology, Otology and Laryngology—Dr. Bolling A. Pope, of Louisiana, chairman; and Dr. Eugene Smith, of Michigan, secretary.

For Judicial Council—Drs. W. O. Baldwin, of Alabama; N. S. Davis, of Illinois; J. P. Gray, of New York; E. L. Howard, of Maryland; A. N. Talley, of South Carolina; D. W. Stomont, of Kansas; and J. P. Logan, of Georgia.

For Committee on Necrology—Dr. J. M. Toner, of District of Columbia, chairman; Drs. R. F. Michel, of Alabama; F. W. Hatch, of California; J. B. Cummings, of Arkansas; Chas. Dennison, Colorado; G. W. Russell, of Connecticut; J. H. Richards, of Delaware; J. P. Wall, of Florida; T. S. Hopkins, of Georgia; J. H. Hollister, of Illinois; G. L. Sutton, of Indiana; H. B. Ransom, of Iowa; C. V. Notham, of Kansas; D. S. Reynolds, of Kentucky; E. A. Lewis, of Louisiana; E. F. Sanger, of Maine; J. Morris, of Maryland; L. F. Warner, of Massachusetts; G. E. Ranney, of Michigan; D. W. Hand, of Minnesota; J. M. Richmond, of Missouri; J. R. Black, of Nebraska; L. G. Hill, of New Haven; H. D. Didama, of New York; J. Blain, of New Jersey; F. J. Hayward, Jr., of North Carolina; Starling Loving, of Ohio; Frank Woodbury, of Pennsylvania; C. H. Fisher, of Rhode Island; Manning Simons, of South Carolina; J. B. Lindsley, of Tennessee; H. W. Brown, of Texas; O. F. Fassett, of Vermont; L. S. Joynes, of Virginia; R. W. Hazlett, of West Virginia; J. T. Reeve, of Wisconsin; J. J. Woodward, of District of Columbia, United States Army; nd A. L. Gihon, of United States Navy.

ADDRESS OF THE CHAIRMAN OF THE SECTION ON OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN, BY DR. E. S. LEWIS, OF NEW ORLEANS, LA.

The address of Dr. Lewis consisted of a resumé of the literature during the past year upon abdominal palpation, puerperal fever, laparo-elytrotomy, change of posterior position, ligation of the cord, traction upon the lower jaw, treatment of post-partum hæmorrhage, treatment of cancer of the cervix uteri, and the treatment of uterine fibroids.

The address was referred to the Section on Obstetrics, etc.

The association took up the report made upon the metric system, by Dr. E. Seguin, of New York, and adopted the following resolutions:

Resolved, First—That the American Medical Association adopts the international metric system, and will use it in all its transactions.

Second—Requests that those who present papers at its future meetings employ this system in their communications, or reprints thereof.

Third—Requests the medical boards of the hospitals and dispensaries to adopt the metric system in prescribing and recording cases; and that the faculties of the medical and pharmaceutical schools adopt it in their didactic, clinical or dispensing departments.

Fourth—Requests the physicians familiar with the metric system to help their confréres and the druggists in its application; and the delegates present at this session to work up the acceptance of the metric system by their respective county and state societies.

Fifth—Requests our president to name a metric executive committee, of which he shall be the ex-officio chairman, and whose task will be to give unity and rapidity to this metric movement.

Dr. Chaillé, of Louisiana, introduced a resolution petitioning Congress to pass a law removing the duty from any one book or instrument which should be imported to assist in the personal pursuit of scientific study. Adopted.

Dr. Brodie, of Detroit introduced a resolution which he asked to have referred to the Judicial Council.

Resolved, That the use of articles thus protected by copyright is a distinct violation of the Code of Ethics. It was so referred.

Dr. Turnipseed, of South Carolina, offered an amendment providing for the formation of a section to examine and report regarding the merits and demerits of surgical and gynæcological instruments presented at the meetings of the association. Laid over under the rule.

The association then adjourned to meet on Friday, May 9, at 9:30 A. M.

The association was called to order at 9:30 A. M. by the president.

The following gentlemen, on recommendation by the Committee of Arrangements, were elected members by invitation: Drs. J. J. Jones, R. N. Ross and E. Cross, of Arkansas.

The Surgical Section, through its chairman and secretary, reported that the proposition to establish a section upon genito-urinary diseases had been withdrawn.

The following resolutions, based upon Dr. Chaillé's paper, were offered:

Resolved, That a committee on the more efficient organization of this association and of its branches—consisting of five members—be appointed by the president.

Resolved, That this committee be instructed to devise and recommend ways and means to secure greater uniformity as well as greater strength of organization of the state medical societies, and all their auxiliary branches.

With these ways and means the following be considered:

First—The compilation of a model code of detailed regulations for the government of state and county medical societies.

Second—The requirement from any state medical society of an annual report, to contain certain data (to be specified) necessary to show the condition and progress of each of these state societies, and of their auxiliary branches; to also contain a brief summary of the peculiarities of this organization, and of the measures being used by it to promote medical organization; and still further, to contain a brief summary of

the laws of the state in reference to state medicine, and of the efforts being made to promote the practice of state medicine. Such reports should be published in the transactions of each state medical society.

Third—The publication, in annual transactions of this association, of a consolidated report of the above reports from each state, together with special notice of the meritorious work done by any of the branches of this association.

Fourth—The substitution of a periodical medical journal for the present volume of transactions.

Fifth—The non-recognition by this association of state medical societies which make no provisions encouraging the organization of auxiliary societies in counties, etc.

Sixth—The advisability of electing no person, either as permanent member or member by invitation, unless such person be a member of a state medical society; provided, that there be such a society, and recognized by this association, in his state.

Seventh—The advisability of refusing to admit to this association delegates of the societies auxiliary to the state societies, unless the certificates of delegation be indorsed by the authorized officer of the state society.

Eighth—The advisability of refusing to admit any delegates except those selected from and elected only by voting members who have paid all fees due to their respective county and state societies, and of establishing the principle that only those members of branch societies who are entitled to vote, and have paid all fees due, shall be entitled to delegates.

Ninth—The advisability of urging every medical college to have not less than one lecture delivered to every graduating class on the importance to the profession and to the people of medical organization.

The president appointed as committee to report upon the above resolutions: Drs. Foster Pratt, of Michigan; S. D. Gross, of Pennsylvania; N. S. Davis, of Illinois; A. N. Bell, of New York; and Alonzo Garcelon, of Maine.

A communication, relating to intervention of physicians in education, was received from Dr. R. J. O'Sullivan, New York, and the request that the committee be continued was granted.

Dr. E. Seguin, of New York; Dr. L. P. Yandell, of Kentucky; Dr. J. M. Da Costa, of Pennsylvania; Dr. Moses Gunn, of Illinois; and Dr. L. Turnbull and Dr. E. Warner, of Paris, were elected as delegates to represent the association in medical societies in Europe; and Drs. J. C. Hutchinson, of New York, and Wm. Brodie, of Michigan, as delegates to medical societies in Canada.

The Committee on Nominations reported the following resolution:

Resolved, That the Committee on Publication be instructed to advertise for proposals to publish the transactions of this association in six of the largest cities of the Union, and that the contract be awarded to the lowest and most responsible bidder.

Dr. A. M. Pollock, of Pennsylvania, moved to lay the resolution on the table. Motion was lost.

Dr. Foster Pratt, of Michigan, moved to amend by striking out the words "in six of the largest cities of the Union." The amendment was lost by a rising vote of ayes 21; nays 27. The original resolution was then adopted.

On motion made by Dr. Grissom, of North Carolina, an honorarium of six hundred dollars ($600) was voted for the premanent secretary.

The following Committee on Ozone was appointed by the president: Drs. N. S. Davis, of Illinois; J. M. Toner, of District Columbia; S. M. Bemiss, of Louisiana; W. H. Geddings, of South Carolina; and H. O. Marcy, of Massachusetts.

The following Metric Executive Committee was announced: Dr. Theophilus Parvin, of Indiana, ex-officio chairman; Dr. E. Seguin, of New York; Dr. E. Wigglesworth, of Massachusetts; Dr. J. R. Weist, of Indiana; Dr. E. R. Squibb, of New York; and Dr. Wm. B. Atkinson, of Pennsylvania.

ADDRESS OF THE CHAIRMAN OF THE SECTION ON OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY, BY DR. H. KNAPP, OF NEW YORK.

Dr. Knapp's address consisted of brief references to a number of subjects, and a notice of some of the more important

advancements made in the departments of ophthalmology and otology.

Iridectomy in chronic glaucoma was giving way to sclerotomy. Sympathetic ophthalmia was transmitted by the ciliary instead of the optic nerve, as advocated by some. Reference was made to cataract extraction, to the use of eserine and duboisine, to ophthalmoscopes, to lid-holders, to tumors of the eye, and to works on pathological anatomy.

Otology showed less extensive, but no less marked advancement than ophthalmology; and reference was made to discoveries in acoustics and the management of mastoid inflammation. A number of instruments and pathological speciments were exhibited.

The address was referred to the Committee on Publication.

The Committee on Prize Essays submitted the following report: That the prize of one hundred dollars ($100) be awarded to Dr. Allan McLane Hamilton, of New York City, for an essay on certain forms of primary and secondary (local) degeneration of the lateral columns of the spinal cord, with special reference to an infantile rare form.

Dr. N. S. Davis, of Chicago, offered resolutions of thanks to the president of the association, to the governor of the state of Georgia, to the mayor of the city of Atlanta and to all her citizens; to the various railroad and steamship companies that had extended favors, to the local press and to the Committee of Arrangements, expressing the hearty gratitude of the American Medical Association for the uniform kindness, hospitality and courtesy which its members had received.

The resolutions were unanimously adopted by a rising vote.

The report of the delegates to the Canada Medical Association was presented by Dr. Wm. Brodie, of Detroit, Mich., and entered upon the minutes.

The Judicial Council reported in reference to Allen County (Indiana) matters, that it be postponed until the next annual meeting; and that the American Medical Association did not regard the delegates from the Arkansas Medical Association as entitled to registration, because it did not regard the society which they represented as a state medical society.

The report was accepted and entered upon the minutes.

The Committee on State Boards of Health, who are required to report annually the results of their efforts, state that they addressed the usual memorial to the executives of the states still without state boards of health, and were assured by some of the executives that they would use their efforts to the end desired. They are happy to announce that the legislature of the state of Delaware has adopted such an act, and the board of health of that state is now in process of organization. We now have nineteen state boards of health: Alabama, California, Colorado, Connecticut, Delaware, Illinois, Kentucky, Louisiana, Missouri, Michigan, Minnesota, Mississippi, New Jersey, North Carolina, Rhode Island, Tennessee, Texas, Virginia and Wisconsin.

(Signed) W. B. ATKINSON.

The last business in order was the installment of new officers.

Dr. Parvin, in appropriate remarks, thanked the association for the honor conferred upon him, the uniform courtesy which it had extended to him during the deliberations of the present meeting, and in laudatory words introduced the president-elect, Dr. Lewis A. Sayre, of New York, who expressed his feelings of appreciation for the highest honor that could be bestowed upon a medical man in this country.

On motion, the president declared the association adjourned, to meet in the city of New York, on the first Tuesday in June, 1880.—*Medical Record.*

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

BRADFORD, ILL., April 30, 1879.

Dr. E. S. Gaillard:

DEAR SIR—Let me trouble you with a few particulars of a case just closed, with a view to its diagnosis.

Mrs. H., about sixty-four years old; short of stature, but very corpulent; has enjoyed good health for the most of her life, but occasionally was inconvenienced with what might

seem uterine colic, judging from her description, and the fact that she was sterile. I first visited her for pains of that character with severe backache about four years ago. Backache not being uncommon to her, she was accustomed to take spts. nitre dulc., for what she termed pain of kidneys. Other than this she has not been troubled till within a couple of years, and during that time till recently her chief trouble was sleeplessness of nights, and occasionally more or less severe pain radiating from the epigastric region, which was generally eased—relieved in fact—by anodynes in a short time. Recently, however—say a month since—she applied to me for help from another cause, or a different aspect of the same. She now complained that sometimes within a few minutes to half an hour after eating, she would be very much distressed with pain in the epigastrium, and which eased with the passing down of the contents of the stomach. Intervals of freedom from attacks would obtain, but it would seem chiefly as a result of the five-grain Dover's powders which I gave her to take *pro re nata*. She generally found ease after taking one, the effect lasting through the day, another affording sleep at night; but two weeks since she began to dread the taking of food, because on almost every occasion severe pain ensued, eased only by the taking of an anodyne; she could not wait the period of digestion. The pain radiated from the epigastrium over bowels into back, and severely beneath both scapulæ. During the pain the interscapular region would be very chilly, so that the application of heat, even as from the hand, would be very grateful. No vomiting ensued; no noticeable jaundice; no trouble in respect of urine observed; the pulse unaffected; the bowels regular, and stools of usual color. Thus then, till a week ago, the chief symptoms of trouble were epigastric pain and tenderness, the pain attendant on the taking of food, radiating over abdomen and into back and beneath the scapulæ; some amount of acidity of stomach; pain of late increasing in severity and easily excited, even by a little gruel; but after a few doses of pulv. Doveri, a couple of days would occasionally pass with ease.

On the 20th inst. the patient felt fairly well, and went to

church; but prior to going she passed her water into a commode, and, as there was some unusual experience in the voiding of it, she took notice of its appearance, and was almost shocked to see that it looked thick and brown. On the next day she had another attack after eating; and calling me in, said she began to be discouraged in her hope of being cured, and then drew my attention to her urine, which was scanty, with heavy sediment, and as dark as fairly strong coffee. On this day also she had an unusual motion of bowels—a large motion, rather frothy, of dark color, and rather more than offensive. I took one voiding of her water to test for bile, as she was now showing icterous conjunctivæ and skin. Nitric acid gave but a slight play of colors—not so distinct as I expected to result. Being put upon a diuretic mixture the urine improved in clearness, color and quantity, being still, however, considerably dark. The diuretic was taken up in four days, when, being out of powders and mixture, she thought she would go without medicine for a while; but in two days the distress consequent on the taking of a little food was too great—she must be eased.

I now advised the trial of a little buttermilk, and now came the climax. Toward evening on the 26th inst. she took a little buttermilk—it was rather sour—and very soon ensued a very severe paroxysm of pain, taking the usual directions; at this time the stomach sought relief by vomiting, but the relief was very transient and small. My presence was summoned. The patient was in great distress. Tr. opii deod. was freely given, but within a few minutes the worst distress I ever witnessed was manifest, and shortly another emesis occurred, the discharge being much more than she had taken for some time. The patient being now frantic with pain, I administered hypodermically morphia, and thus in some measure compelled relief; but absolute ease could not be obtained within what I considered safe limits, because a semi-comatose state was manifest long before ease was fairly obtained. During the night at intervals anodynes were given, but every spoonful of liquid induced distress afresh; hence as little ingesta were given as possible. Occasional snatches of

quietude were obtained by lying on the left side. The patient wanted to be frequently raised up till morphia and chloroform had largely subdued the distress.

On the morning of the 27th the pulse, which had during other attacks remained quiet, showed 120 and prominent; fever now was evident; the countenance suffused; urine scanty, very dark and "muddy." This I considered a tangible sign; the opiates were acting perniciously on the renal functions; here experience spoke, you ease the distress by the only available drug, you thereby induce suppression of urine. The dilemma was made known to the friends; consultation was determined on when it was seen that the case did not brighten on Sabbath eve. Dr. H., twenty-five miles away, was sent for. On the morning of the 28th I found the pulse told a sorrowful tale; 120—130—smaller and weaker; not enough urine had passed during twenty-four hours for three hours, notwithstanding diuretics had been given as the distress would allow. I objected to the frequent exhibition, therefore, of opiates, though the distress seemed to require them. The patient, notwithstanding her manifestations of distress, was semi-comatose; the abdomen gave evidence of tympany, but on account of the adipose deposit exploration by palpation was of no avail.

During my absence after my first call on the 28th, another doctor took the case. The husband demanded relief be given; if not by me, then by another. That other promised relief, and also relief of kidneys. Of course, finding this "thus," I gave my opinion of such conduct and withdrew.

Morphia and Dover's powders were often given, but the only effect was to deepen the coma, and wholly prevent the secretion of urine. In the course of the morning the doctor from afar was on hand, but, although I live only half a block away, I was not sought nor called on. The "consultation" (?) was gone through with in the absence of much of the history, and the conclusion given that the passage of a gall stone was the trouble; if she could live till morning she would recover. She received no benefit, however, and died at about 3 o'clock of the next night, Tuesday A. M., not having become conscious.

Please allow me to ask if this is so clear a case of the stoppage of the bile ducts by calculi, that any thing further was out of reason?

The deceased told me and others that should she die from this trouble her desire was that myself and a doctor who lives at a great distance should open her; but the dictum of the two above mentioned has settled the question.

Respectfully yours, THOS. SOLLIS, M. D.

P. S.—Some two or three years ago Mrs. H. swallowed a piece of tough, tendonous meat, which did not digest, but which caused much distress of the stomach for some time; and, to that as a cause, she was disposed to refer her subsequent gastric trouble. For a year she dared not eat hearty food at night.

CHEMISTRY AND PHARMACY.

"Diruit ædificat, mutat."—HOR.

CONDUCTED BY C. W. NULL, M. D., LOUISVILLE, KY.

A THEORY OF THE ACTION OF ARSENIC.—Professor Binz, of Bonn, and Dr. H. Schulz, starting from the fact that a subcutaneous injection of arsenious acid in solution of one of its neutral salts produces no caustic effects at the seat of injection, but only in distant organs (stomach and small intestines), have been led to the belief that arsenious acid acts in the tissues, in contact with living protoplasm as an oxidizing agent, or carrier of oxygen from one albuminous molecule to another. During this process it is converted into arsenic acid, then reduced, again oxidized to arsenic acid, and again reduced, exactly as hyponitrous acid is oxidized to nitric acid, and again reduced in various chemical reactions. Both arsenious and arsenic acids are used in the arts as oxidizing agents —for example in cotton printing and in the preparation of aniline—and the authors of the theory before us have proved that arsenic acid can be reduced to arsenious acid, and *vice versa* arsenious acid raised to arsenic acid, by digestion, under

certain conditions, with various albuminous substances, at a blood heat. From these and other considerations, therefore, they assume an oxidation within the tissues of arsenious to arsenic acid, by means of the living protoplasm. The arsenic acid, in undergoing reduction, in its turn exerts a caustic action on the part where it was formed. Professor Binz concludes that its formation—its formation in the protoplasm of the nervous centers—where tissue change is so active, explains the symptoms of irritation and subsequent paralysis of these centers in arsenic poisoning. In the same way he explains the diminution of glycogen in the liver, the increased excretion of nitrogen in the urine, the fatty degeneration of various tissues and organs in chronic arsenic poisoning, and the influence of the drug on malaria and on some malignant tymphomata. No doubt many more experiments and observations must be made before the new theory will hold its own, but it may be provisionally accepted on the author's own terms, viz., that "it gives a simple explanation of the chief phenomena produced by arsenic, does not contradict any known fact, and has an experimental basis."

Detection of Blood Stains.—The detection of blood stains upon clothing by the demonstration of crystals of hæmatin is often rendered extremely difficult by the presence of grease patches or other stains; and also, in some cases, by the coloring matters purposely employed in dyeing the material. When the blood is at all freely distributed, the upper surface of one of the patches can be shaved off with a sharp knife, and the examination of this presents no difficulty; but if the spots be few and small, their identification under such circumstances is far from easy. Recognizing the great importance of finding some convenient means of separating the coloring matter of the blood from that of the dye and from grease and other impurities, Professor Selmi has been conducting a series of experiments on the point, the results of which are now made public. He arrives at the conclusion that the most convenient method to pursue is to operate with some reagent which shall precipitate the coloring matter of

the blood in an insoluble form, from which the impurities may be washed away, and then to obtain the crystals from it by the ordinary method. With this view the professor passed under review all the principal reagents ordinarily employed in such circumstances—sulphate of zinc, acetate of zinc, tannin and tungstate of soda; but with all these the results were doubtful. The only reagent which gave satisfactory results was a mixture of tungstate of lead and ammoniated alcohol.—*Monthly Magazine of Pharmacy.*

Saliva and the Digestion of Starch.—Dr. R. M. Smith, in a lecture on experimental physiology, at the University of Pennsylvania, showed that the gastric juice only suspened the action of saliva in changing starch to sugar, the action being resumed when the acidity is neutralized by the intestinal juices. He showed also that while caustic alkalies destroy the catalytic action of saliva, the weaker alkalies only suspend it. This proves the rationality of giving these alkalies in acidity of the stomach or mouth. It gives a better chance for the digestion of amylaceous foods.—*Med. and Surg. Reporter.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Index damnatur cum nocens absolvitus."

Art. I. *The National Dispensatory, Containing the Natural History, Chemistry, Pharmacy, Actions and Uses of Medicines, Including Those Recognized in the Pharmacopœias of the United States and Great Britain.* By Alfred Stillé, M. D., LL. D., and John M. Maisch, Ph. D., with Two Hundred and One Illustrations. Philadelphia: H. C. Lea. 1879.

This long-looked for work—an octavo of 1,628 pages—contains not only an account of all the medicines and preparations of the United States and British pharmacopœias, but also a description of the more important drugs of the French codex and the German pharmacopœia, as well as of numerous remedies unauthorized by any standard, but employed

occasionally by physicians and in domestic practice. This work naturally comes into comparison with the United States Dispensatory of Ward & Bache, and we think it high praise to say that in such comparison it does not suffer. Singular as it seems, the United States Dispensatory, although mainly edited and composed by a physician of high standing, will, in our opinion, be more useful to the apothecary, whilst the present work, although edited and composed by gentlemen specially devoted to pharmacy and materia medica, will be of greater service to the physician. The United States Dispensatory is divided into two parts—a materia medica and an account of the preparations. The National Dispensatory is a complete and consecutive work. The different articles of the materia medica are arranged and described in alphabetical order, and the matter of each description is divided into a number of paragraphs containing an account of the source or origin of the article under consideration, its preparation, properties, tests, medical uses and physiological action. When botanical descriptions are necessary these are concise, and are limited to a statement of the natural order and habitat of the plant. On the other hand, the treatment which drugs undergo before they reach the hands of the pharmacist is detailed at considerable length.

The materials used in adulterating chemical substances used in medicine, the properties of such substances and the method of detecting adulterations, are described. Chemical formulæs are expressed in the new notation, together with the molecular weights of the principal chemicals. Processes for pharmaceutical preparations are given generally in the language of the pharmacopœia. In treating of the physiological action of medicines, the results of experiments are stated as far as possible in non-theoretical terms. In treating of therapeutics the results of clinical experience are given, without discussing the grounds on which they rest. Another feature, novel in a dispensatory, is the therapeutical index. By its means all the more important medicines that have been employed in the treatment of each disease may be learned. The appendix contains a list of reagents, rules and tables for con-

verting apothecaries' weights and measures into their equivalents in metric terms, a table of maximum doses, and tables comparing the scales of different thermometers, hydrometers, &c. The book is well printed and well illustrated, and the division into paragraphs, together with the general index and the therapeutical index, especially adapts the work for reference.

ART. II. *A Guide to the Qualitative and Quantitative Analysis of the Urine.* By DR. C. NEUBAUER and DR. J. VOGEL, with a Preface by PROF. DR. R. FRESENIUS. Translated from the Seventh Enlarged and Revised German Edition. By ELBRIDGE G. CUTLER, M. D. Revised by EDWARD S. WOOD, M. D. New York: Wm. Wood & Co. 1879.

The publishers here present us with the translation of a famous German work, bound in a novel and tasteful manner. It is an octavo of about 550 pages, with the ordinary leather covering, stained a dark red, with raised and gilt bands, the edges marbled, and the title printed in gold on a dark-green background. Altogether it is a very handsome book, and the contents are well worthy of being preserved in a careful manner. Pathology and physiology are a great part of their rapid development to chemistry. This science has investigated the metamorphosis and transformation of tissue, and was not long in finding out that the urine was the special storehouse for the decomposition products of animal tissues, and that its study would give conclusive information concerning the organic processes in the diseased as well as in the healthy body. The urine therefore has been studied with great diligence, and the results of such study and the best manner of conducting such investigations is given in the above-mentioned work. There is no book similar to it in the English language, and it is this or none. It is well we have so good a choice. The medical student and practitioner can learn from this book not only the methods to be employed to obtain a knowledge of the chemical composition of the urine, but also, how to infer from it to a certain extent the general

condition of the patient whose urine is examined. The book is divided into two parts; the first, by Dr. Neubauer, being strictly chemical, and the second, by Dr. Vogel, being chiefly medical. Dr. Neubauer gives first a description of normal urine, and calls attention to the changes it undergoes in the acid and alkaline fermentation. The chemical properties of the normal and abnormal organic and inorganic constituents is added to the first part, and special attention is paid to the appearance of each under the microscope. The second part treats of the different quantitative methods, and details the necessary manipulations. The third part contains a practical guide to the qualitative and quantitative examination of the urine and its sediments, in accordance with the present standpoint of chemistry. The physical and chemical properties of normal urine, its normal and abnormal constituents, organic and inorganic, its sediments and its accidental constituents, are first described. Then the quantitative estimation of the various organic and inorganic constituents. A guide to the qualitative analysis, directions for the recognition of sediments under the microscope, a guide to quantitative analysis, and a guide to the approximate quantitative estimation is then given, which, with some analytical experiments, completes the first part of the work. The whole is written with that attention to minute details and painstaking industry that characterizes the Germans.

The second part, by Dr. Vogel, treats of the semiology of the human urine. According to Dr. Vogel, "the aid which an examination of the urine renders the physician in reference to diagnosis, prognosis and treatment may be of two kinds. An examination of the urine enables us to draw conclusions: (1) As to the general condition of the economy, the relations of metamorphosis, character of the blood, the digestion, &c. (2) As to certain local diseases of organs belonging to the uropoëtic system. A mere inspection of the urine may give information of importance. Thus we are frequently enabled to tell whether a patient has fever or not. From the odor or color we know that certain articles of food or medicine have been taken; from the appearance of sper-

matozoa that a masturbation or coitus has taken place; from the presence of albumen in the urine, we can conclude under certain circumstances that the patient is dropsical; or, when the urine contains biliary coloring matters, that jaundice exists, &c. In order to facilitate the general study and the solving of certain questions, Dr. Vogel divides his treatise into two divisions. (1) Contains an account of the changes in the color, appearance and odor of the urine, the chemical reaction of the urine and its significance, the occurrence of unusual or abnormal constituents in the urine and urinary sediments. (2) Comprises the quantitative changes in the urine which can be determined without chemical analysis, and which, on account of their easy detection, are especially important to the physician, and the quantitative changes which require a quantitative chemical analysis for their demonstration. A guide to the examination of urinary calculi and other urinary concretions is added as an appendix. The whole book is most ably written, and is calculated to be of the utmost service to a physician. For sale by J. P. Morton & Co. E. M.

ART. III. *Atlas of Skin Diseases.* By LOUIS A. DUHRING, M. D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, &c. Part V. Lippincott & Co. Philadelphia. 1879.

This contains representations of scabies, herpes zoster, tinea sycosis, eczema (vesiculosum). Each of these depicts a typical case admirably executed and lifelike. No higher praise could be accorded this, the latest part of Professor Duhring's great work, than to say that it is equal to those which had already appeared.

Of course every physician especialy devoted to the study of cutaneous pathology will purchase this work, and the pleasure and satisfaction he derives from its artistic and truthful delineations will be in proportion to his interest and knowledge in this department of practical medicine. Every teacher of dermatology will certainly provide himself with these exquisite illustrations of skin diseases. But these are

the least in need of such a work. It is the general practitioner who really does need such aid to diagnosis as may be found in Professor Duhring's Atlas of Skin Diseases. The general practitioner sees comparatively few cases of skin diseases, especially of the rarer forms. Quickness and accuracy of diagnosis are therefore more difficult to him than to one who daily sees a great variety of skin diseases. By means of this atlas he will refresh his recollection of cases formerly seen, and facilitate an otherwise difficult task. J. A. O.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

M. L. JOLLY has studied the distribution of phosphates in the different elements of the blood. He has found that the alkaline phosphates predominated in the watery part of the blood, and that all the elements contain a variable quantity of phosphate of iron, but that this salt is especially accumulated in capsules.—*British Medical Journal.*

THE VARIOUS APPLICATIONS OF CALCIUM PHOSPHATE IN MEDICINE.—The works of M. Dusart have contributed largely to the spread of the use of phosphate of lime for therapeutic purposes. The importance of this substance is shown by the fact that phosphate of lime is in largest proportion in those animals whose activity is greatest, and whose temperature is highest. Phosphate of lime administered in an insoluble state passes along the alimentary tract, and is for the most part ejected with the fæces without causing any marked change in the animal economy. An entirely different action take place, however, when the phosphate is dissolved in lactic acid. Under the form of lacto-phosphate, it stimulates the function of nutrition, whether in the adult or in the infant. In the latter, under the influence of this substance, the weight of the body uudergoes a regular and progressive increase. Whilst exercising this general recuperating influence, lacto-phosphate of lime exerts a special effect upon the osseous system, in

which it causes an increase of hardness; or, in cases of fracture, consolidation. This double action is the basis for the therapeutic applications of lacto-phosphate of lime. In rickets, M. Dusart finds that in every case in which the diet, though sufficient in quantity, was unsuited to the digestive organs, the addition of lacto-phosphate of lime caused rapid improvement. Very interesting observations upon this subject have been collected in the large hospitals of Paris. In wounds and fractures, as in the preceding case, lacto-phosphate of lime acts by its invigorating power, and by its special action upon osseous tissue, to which it carries the calcareous salt or reparative material. Its employment is chiefly indicated according to Dr. Paquet in those cases in which there exist deeply-seated disturbances of the functions of nutrition. The result, which is all but constant, to be attained from this method of treatment, is a marked diminution in the usual length of the period of consolidation. Easy pregnancy, constant appetite, a well-developed and vigorous child, a rich milk and abundant supply, are the results obtained by M. Dusart from the employment of lacto-phosphate of lime by the mother. Given to the child it keeps up its appetite, favors nutrition, and thus preserves the infant from most of the ailments which are peculiar to the first period of life. In typhoid fever and its convalescent period, in albuminuria, phthisis, diphtheria, &c., the invigorating properties of lacto-phosphate of lime may be used with advantage.—*Gazette Medicale de Paris.*

THE so-called *facies hippocratica*, literally translated from the original, is described thus: "A sharp nose, hollow eyes, collapsed temples; the ears cold, contracted, and their lobes turned out; the skin about the forehead rough, distended and parched; the color of the whole face green, black, livid or lead-colored."—*Detroit Lancet.*

DECREASE IN THE NUMBER OF DOCTORS IN FRANCE.—The number of doctors of medicine practicing in France in the year 1866 was 11,254, and that of "officiers de santé" 5,568. In 1877 there were only 10,743 doctors and 3,633 "officers," a reduction of 2,446 in the number of practitioners.—*Medical Record.*

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

The National Board of Health.

This body, Dr. J. L. Cabell, of the University of Virginia president, has recently been convened at Atlanta, Ga. It was a very important meeting, and the whole of the medical profession—indeed, the entire general public also—awaited the publication of its transactions with interest and impatience. And no one could have been surprised at this, for the body itself was composed of excellent material, and their object was inferior to none that ever engaged the attention of a scientific meeting. The public health; the safety and happiness of a nation; the abatement or perhaps removal of causes that bring anguish to myriads of fireplaces; the increase of population; the building up and making secure in health one-fourth of this country; the banishment of the several plagues which distress and destroy the American people; making deserted places to bloom again, and places blooming with verdure and agricultural wealth safe and happy homes; teaching a nation how to be clean and healthy, prosperous and more happy. Surely these and kindred subjects were enough to make the body called together to discuss them a supreme object of a nation's attention. And comprehensive as is the scope of legislation herein indicated, in point of fact the appropriate legislation of this body may and will cover a much wider field.

Such being the circumstances surrounding this National Health Board, what was, as the English would say, the outcome of its recent meeting?

After reading the transactions as published in the Atlanta papers, all are compelled to admit they are valuable and instructive. It is true that they contain chiefly the history of the subjects discussed, and the truisms based upon them; all of the history and the deductions being well known to those reasonably familiar with this portion of medical literature, yet the dissemination of such material must accomplish much good, and be absolute information to very many. The sub-

jects discussed were few in number, and the range of the discussion limited; but this was the result not of poverty of material or the incompetency of the body, but to the limited time at their disposal. While therefore a great deal of valuable instruction was the outcome of this meeting, it is to be lamented that very little of practical and immediate importance was done. In the meanwhile summer comes on rapidly, and the great mass of the public are left as powerless as they were a year ago to meet the dire contingencies of any epidemics that may visit them. With all of the work done by this National Health Board and by similar bodies smaller and less important in character, it must be admitted that should yellow fever or other epidemics appear, there has been nothing done by these boards of practical importance to the people.

The country must yet awhile be dependent upon the Health Bureau at Washington to give information as to the anticipated arrival of poisoned vessels, that such may be strictly quarantined, and to the strictest sanitation which physicians may induce municipal boards to institute. It being a matter of certainty that information as to the approach of tainted vessels will be given by the bureau mentioned, and that proper precautions will be taken to guard the country from danger from such sources, it is evident that the very gravest responsibility rests upon the physicians of this country in securing as far as possible domestic and municipal sanitation. Guarded thus from dangers without and equally guarded from dangers within, there is reasonable ground for hope that whatever may be the coming season, the country will escape the terrible desolation of the past year. It should be distinctly remembered, however, that to accomplish this result an enormous responsibility and labor devolves upon the medical profession, and that every physician is called upon to discharge his portion of this duty to the uttermost. Will each one do so? The eyes of the whole profession are open to coming dangers; and as they will honor those of their brethren who are foremost in the discharge of their duty, so they will censure the indolent and the sluggard.

It may in conclusion be well to remember a fact well presented by Dr. Logan, of Atlanta, in his address of welcome to the American Medical Association. This accomplished physician asked all to remember that while some might believe yellow fever to be of foreign origin, and only prevailing in this country when imported, and while others might believe this fever to be due to local causes, that practically the result was the same; for as the question was in dispute, even among the ablest men, it behooved the profession to guard the public against both of the alleged sources of danger—to prevent importation from abroad, and exercise the strictest sanitation at home. A sound and practical view which must commend itself to every man of strong sense and good judgment.

The outcome of all the work of all the health boards then is that much useful information will be disseminated, and that the physicians throughout the whole country will appreciate the great fact that, as these health boards have practically done but little so far, the safety of the country for the coming season depends partly upon the bureau at Washington in giving warning and securing quarantine, but chiefly upon the entire medical profession in securing the most absolute domestic and municipal sanitation. As at the battle of Trafalgar, Lord Nelson signaled to his fleet these memorable words, "England expects every man to do his duty," so it behooves the medical Press of this country to signal a similar admonition to all the brave physicians, who, if danger comes, are to do battle for the safety of homes and humanity.

E. S. G.

Association of American Medical Colleges.

The recent meeting of this body, at Atlanta, Ga., seemed to be remarkable for want of harmony—for a tendency to special legislation, and particularly for a prompt dismissal of the charges preferred against the Louisville Medical College and the Kentucky School of Medicine. These charges were preferred by Dr. Austin Flint, Jr., Dr. S. D. Gross and Dr. N. S. Davis; each of these gentlemen representing well known medical colleges. The colleges arraigned went to Atlanta prepared

to show the falsity of the charges, but this seemed to be wholly unnecessary, as after a very short examination of the subject, two of the gentlemen signing the charges were unable to show their tenability—indeed acknowledge their untenability—and the third was absent from the association. The charges were dismissed.

It may be taken for granted that the charges so frequently and unjustly made against these institutions are wholly untrue, and that they will remain unblemished members of the college association.

The drift of special legislation was very manifest; but as might have been expected, such efforts accomplished nothing.

The design to prevent advertising in newspapers is noteworthy, inasmuch as some of the oldest and best medical colleges adopt this course. When law and theological schools so advertise, it will be difficult to show why medical colleges may not do likewise; still if such is the voice or wish of the profession, all colleges will abandon such methods of making known their advantages; but the rule should be absolute and made applicable to all medical colleges in this country.

It is gratifying to see that while a few medical colleges seek to withdraw from the association, there are several of the best institutions seeking to enter it.

If harmony be made the desired object of every delegate; if class or special legislation be avoided; if the trustees of colleges be received as delegates; and if the good of the profession be especially sought and secured—the future of this association will be all that its founders desired.

The death of the lamented president, Dr. Biddle, of Philadelphia, was appropriately noticed. Dr. Gross succeeds him.

As the association meets next in New York, it is hoped that the membership will be largely increased, and the legislation be harmonious and effective in character. E .S. G.

IMPORTANT NOTICE.—Your attention is particularly directed to the bills that were received in the April and May JOURNALS. Please give them your earliest attention.

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